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Original Articles.

ON OVARIAN TRANSPLANTATION: WITH REPORT OF A CASE OF IMPLANTATION INTO THE UTERUS WITH RESULTING PREGNANCY.*

BY MALCOLM STORER, M.D., BOSTON.

THAT the question of the feasibility and utility of ovarian transplantation is one that has attracted considerable attention in recent years is sufficiently attested by the hundred or more articles on the subject I have looked over, all published since Morris of New York in 1895 reported the first case of successful transplantation in the human. In the same year, working independently, Knauer (*Centrlbl. f. Gyn.*, 1896) performed a number of successful experiments upon animals. As the utility of the procedure is evidently still one of the moot points in gynecology, I have been led to prepare this survey of what has thus far been accomplished. The best papers on the subject are those of Martin (*Trans. Am. Gyn. Soc.*, 1911) and *Sauvè* (*Les greffes ovariennes: Thèse de Paris*, 1910) and it is largely upon their observations that this paper is based.

FEASIBILITY OF TRANSPLANTATION.

The publications of some fifty observers show that ovaries or parts of ovaries can be successfully transplanted in animals from one part of the body to another, especially if autografts are used. In animals these experimentally transplanted ovaries generally live and flourish indefinitely and in many cases the animals have produced young with regularity (*e. g. Grigorieff, Centrlbl., f. Gyn.*, 1897, four pregnancies in rabbits).

While in animals autografts are generally successful, the transplantation of ovaries from another animal (heterografts) are apt to be as uniformly unsuccessful. For instance, Knauer had 3 failures in 12 autografts and 12 failures in 13 heterografts. As to what failure or success consists of I think it is fair to regard the experiment as a success clinically if six months after the operation the ovary is still evidently functioning or if conception follows. Of course absolute proof that a graft has taken means that corpora lutea and interstitial cells can be demonstrated microscopically after an interval of say six months. Transplantation of the ovaries from one species to another (rabbit to cat) have been very generally unsuccessful. Occasionally it has been done. Fuges grafted a number of ovaries of monkeys into the spleens of rabbits with occasional successes. So too the grafting of ovaries into males (*e.g.* into the testis) is generally unsuccessful, although Katsch and Schultz have managed to do it.

Naturally the study of the end results of ovarian transplantation in humans is a very different thing from that in animals owing to the difficulty of controlling the experiment with subsequent visual investigation. Even such positive occurrences as a continuation of menstruation and subsequent pregnancies are to be regarded with suspicion unless the reputation of the reporter is such as to give moral certainty that no fragment of ovarian tissue was left behind. This applies of course especially to cases of chronic salpingo-oöphoritis where the many and dense adhesions render at least possible such an accident. Even masters of surgery may easily do this. Lucas Championnière (*Bull. Soc. Chir.*, 1909) relates a case where he removed both

* Read at the Obstetrical Society of Boston, October 27, 1914.

ovaries and menstruation kept up. Next year he opened the abdomen again and removed a piece of ovary that had been left behind. Generally however such pieces are too small and too buried in new adhesions to be found.

It may be said of ovarian grafting in humans that while the chance of the graft taking is distinctly smaller than is the case with animals, still a majority of the autografts do take, while success with heterografts is only exceptional. Even when the transplanted ovary gradually dies, as is often the case, it is a matter of common experience that its function is preserved for at least several months, the menopause being a gradual rather than an abrupt one. From the few histological studies that have been made of grafted ovaries it seems that there is at first almost always a more or less extensive degeneration of the graft, especially of its cortex, due to insufficient blood supply, with often a later regeneration (Preobachensky and Katasch). Of course if this regeneration be a real and permament one the permament functional activity of the organ may be expected. Pankow reports careful microscopical examination of a transplanted ovary after several years of menstrual life that showed all the characteristics of a normal ovary.

Technique. Views vary greatly as to the technique of transplantation and as to whether to take the whole ovary or only a part of it. Most men think that it is quite sufficient to stitch a piece of ovary (size generally not stated) to any raw surface and that the vascular anastomosis procedures of Carrel and Guthrie are more or less of a surgical *tour de force* implying a degree of dexterity that is given to few men and that is in fact quite unnecessary. Mauclaire (*Bull. et Men. Soc. Chir. Paris,* 1910) thinking that frequently lack of success is due to poor blood supply and not attaching especial importance to any re-establishment of nervous current claimed necessary by some writers, transplants the ovary into the subcutaneous connecting tissue and establishes a copious blood supply by anastomosing the epigastric artery with one of the ovarian vessels. He has done by various methods 109 autografts, 5 heterografts and 5 cold storage grafts, some of the latter ovaries being several weeks old.

Tuffier, (*Bull. Soc. Chir., Paris,* 1911) who has done some 130 cases, merely slips the ovary into the subcutaneous tissue of the abdominal wall without suture. In his experience with this method the grafts generally live, at first absorbing nutrition by imbibition, though quickly new vessels are formed to supply them. Knauer and Riffert, experimenting on animals, have found these new vessels in four and seven days respectively.

While some men transplant the whole ovary, most experimenters prefer a segment with a cut surface to come into apposition with the raw nourishing surface. Martin, who has probably done more ovarian grafting than any man in this country, advises grafts not more than 1/8 inch thick.

The piece of ovary may be grafted anywhere. Tuffier, as I have said, places it in the subcutaneous tissue of the abdominal wall, or as in his later cases, under the sheath of the external oblique, regarding that as affording a condition biologically perfect for the nourishment of the graft, where it will be freely bathed in lymph. Cramer prefers the preperitoneal space beneath the rectus or the subserous tissue of the anterior uterine wall. Kronig and Pankow also prefer the anterior pouch of Douglas. Mauclaire and Marchese like the anterior sheath of the rectus. Dudley Palmer (*Post Graduate,* 1900) sewed a piece of ovary into the uterus, so that it presented in the uterine cavity.

Engel (*Berl. Klin. Wochenschr.,* 1912) implanted a heterograft into the uterine stump of a woman upon whom he had done a double ovariotomy and hysterectomy three years previously. She had been having severe hot flashes and nervous disturbances. Seven weeks later she was having no hot flashes and eventually recovered completely. Of course time and suggestion may have played their parts. Other cases of distinct success with heterografts might be cited. Glass (*N. Y. Med. Jour.,* 1899) transplanted a whole ovary into a woman who two years after a double ovariotomy was suffering from exaggerated symptoms of the menopause. Six days later she had erotic sensations(!), menstruated in 15 days and eight months later was recovered.

Estes (*Penn. Med. Jour.* 1909) in forty cases (humans) implanted the ovary in the site of the tubal insertion, making a wedge shaped pocket in the uterine muscle to receive it, but apparently not opening the uterine cavity. As he says two cases of pregnancy were seen in cases where this procedure was used it is evident that the uterine portion of the tube remained patulous.

Uffreduzzi (*Ann. di Obstetrica,* 1911) implanted portions of ovary in the uterine cornua of dogs (20 cases). All showed when killed later at various periods a necrobiosis (degree not stated) and according to him in not a single case were the conditions such that ovulation could have taken place into the uterine cavity nor were in any case any corpora lutea found in the part of the ovary nearest the uterus. This observer seems somewhat of a pessimist, as he makes the further observation that artificial stomata built in clubbed Fallopian tubes will always close up before long, a statement by no means borne out by my personal experience of several pregnancies following the building of such artificial stomata. Anyway Estes' two cases of pregnancy following the implantation of ovarian tissue in the uterine cornua sufficiently discredit Uffreduzzi's statement that uniformly such grafts cannot ovulate into the uterus, in the human at any rate.

Frank (*Centrbl. f. Gyn.,* 1898) was appar-

ently the first to implant ovarian grafts into the uterus or stump of oviduct. Morris and many others have found the broad ligament the best seat for transplantation, while Foa prefers the posterior pouch of Douglas, and Grigorieff and Ribbert the mesentery. For purposes of experiment ovarian tissue has been grafted into the most out-of-the-way places (chiefly, of course, in animals) such as the muscles of the upper thigh (Cramer, Kayser), between the breasts (Brewitt), and into the kidneys, liver, spleen, brain, and doubtless still others. My feeling is that except for the indication of sterility the graft should be placed in a position where it will not be confined so as to allow for a periodic congestion at the menstrual period. Hence I should look askance at transplanting into such places as the abdominal wall and elect for instance the pocket between the insertion of the round ligament and the Fallopian tube. Of course I am not blind to the fact that should anything go wrong with the graft it is conveniently reached if merely in the abdominal wall. There may be something in Lukaschevitsch' suggestion (*Vratsch*, 1901) that it is wise to place the graft as near as possible to its original site. If the tube has been removed Estes' plan of preparing a wedge-shaped bed for it in the cornu appeals to me. Extreme attention to asepsis is absolutely requisite, the graft should be disassociated from the body as short a time as possible and as few sutures should be used as will suffice to anchor the graft in place, and these should be as superficial as may be. Lukaschevitsch also proposed to transplant a segment of each ovary in case one graft should die.

Pankow (*Zentrlbl. f. Gyn.*, 1908) claims that as the ovary consists of two kinds of tissue, the glandular with its internal secretion, and secondly, the follicular apparatus, which generally necroses anyway and in most of the cases operated upon is not needed, the best results will be obtained if it is possible to destroy this glandular tissue while leaving unimpaired the tissue in charge of the internal secretion. Accordingly, in two cases he exposed the ovaries to be transplanted to a moderately soft Roentgen tube at 25 cm. for ten minutes and then transplanted them. The importance of this procedure is still very much *sub judice*.

One other matter connected with technic is the necessity of exercising the greatest care as to the donor in the case of heterografts. I can well imagine that a suit for malpractice would stand should the donor prove to be a syphilitic. Most of the men who have used heterografts in recent years have availed themselves of the Wassermann reaction.

Internal Secretion. While exact knowledge of the qualities and influence of the much discussed ovarian secretion is still sadly wanting, enough is known about it since Fraenkel's paper in 1913 to warrant the statement that it exerts a profound influence upon the female economy and that after functional ovarian death at the menopause, rightly called the grand climacteric, a woman's physiological life undergoes great modification. The careful researches of Limon and Branca seem to prove that while the cortical portion of the ovary is concerned chiefly with childbearing there is secreted from its interstitial cells a something which, to quote Sauvé, aids in the development of the skeleton, for according to him castrated women are smaller than non-castrated, has influence on the circulating system, increasing the bulk of blood and its degree of hemoglobin, is a powerful controller of the nervous system, works upon various secretions, and has such influence upon the activity of the kidneys (phosphaturia diminishing after removal of ovaries) that by simply measuring the amount of phosphates eliminated Jandy professes to be able to tell whether an ovarian graft has taken or not. Whether or no the ovarian secretion possesses quite such far-reaching qualities it certainly has its great importance, and most men agree that total removal of the ovaries, especially in very young women is followed in many cases by the train of symptoms grouped under the term postoperative or premature menopause, of which gradual atrophy of the genitals and marked increase of fat are the chief signs and marked nervous phenomena the chief symptoms. In other words, the phenomena characteristic of the natural menopause are apt to be compressed into a few months instead of being spread out over a number of years. I know many men are fortunate enough to have no reason to attach much importance to the premature menopause and say their patients never have any trouble to amount to anything. I may have been unfortunate, but I have seen many such cases, suffering to a degree that is very seldom seen in connection with the natural menopause. Looking over the literature, I am rather struck by the fact that the general surgeon, concerned chiefly with the immediate outcome of his operation, sees but little of the premature menopause, while the gynecologist, who is apt to have opportunities for more careful after-study of his cases sees comparatively very many of them. I do not deny that a great deal of nonsense has been written about the premature menopause and many nervous symptoms referred to castration, where probably the presence or absence of the ovaries had but little to do with the matter, except perhaps by suggestion; but on the other hand a sufficiency of cases have made most of us very loath to sacrifice both ovaries, especially in young women. In certain cases, however, for one reason or another, it seems inadvisable to leave either ovary *in situ*, and it is in these cases that ovarian transplantation has chiefly been done, in the hope that thereby the troubles grouped under the term premature menopause would be avoided. It is somewhat hard to draw a conclusion as to how far this hope has been justified. In the first place, there can be little doubt but that in many of the cases in which transplantation was per-

formed at least one ovary or part of one might perfectly well have been left in its original place and that the operation was unnecessary. I notice French surgeons seem to hesitate to leave healthy ovaries. One writer of repute says that the ovaries must be removed in every case of bilateral salpingo-ovaritis and with every uterine tumor of any size. In removing tubes, I have often left the ovaries and hardly ever remove them in hysterectomies or myomectomies in young women. In these uncalled for transplantations, as a good many ovarian grafts die, we have a large series of cases of ovarian insufficiency which would not have existed had transplantation not been done, which, of course, vitiates statistics. On the other hand, while enthusiasts report cases of profound nervous symptoms, lasting for months and even years, disappearing promptly after a successful grafting, and in a few cases even reëstablishment of the long absent menstrual function, other men of experience feel that any good effect from a graft is so problematical that it is not worth doing. This question of the menstrual function after grafts shows the dangers of statistics. A distinguished French opponent of ovarian transplantation states that as menstruation continues in, at most, 17% of the cases of grafting and also continues in some 20% of cases of double ovariotomy anyway, the grafting is of little use. Now I doubt very much that it is the experience of American gynecologists that menstruation continues in 20% of their double ovariotomies. In my limited experience 1 or 2% would be a much truer figure. Of course most of these cases mean that a piece of ovary was left. I remember years ago, when bilateral ovariotomy was more common, Dr. Whitney told me that it was a common experience to find cut surfaces on examining such ovaries. In other cases of menstruation continuing after the removal of ovarian cysts, the cyst may very well have been parovarian and not recognized as such. The truth of the matter as far as grafting for the avoidance of the premature menopause is concerned seems to be about as follows: While in the long run it is very unsatisfactory and transplanted ovaries generally die after a year or so, they are apt to remain alive and functionating for about that time and so allow nature to accommodate itself to the changed conditions slowly instead of being forced to readjust itself precipitously. If, then, it is necessary for any reason to remove both ovaries in a young woman, and they are healthy as far as can be seen, there is a certain justification of grafting a portion of one ovary, preferably as near its original site as possible. To be sure, there will very likely be certain inconveniences and discomforts caused by the transplanted ovary, but their sum will generally amount to comparatively little as contrasted with the sum of the discomforts of a well marked case of premature menopause. Such discomforts will be those to be expected from the periodical swelling of an organ more or less confined, if the ovary is slipped under the sheath of the external oblique, for example. Then also such ovaries as they atrophy may cause trouble, as in my own case. Other bad results mentioned are dysmenorrhea (Morris, Martin), vesical troubles (Pankow), thrombophlebitis (Morris), results due partly to the seat of transplantation and partly to extrinsic causes. But as I say, the sum of such bad results seems small in comparison with the probable gain. Thus in 59 reported autografts, 15 cases may be said to have had permanent good health follow, *i.e.* normal menstruation kept up, while most of the failures did not impress me as being much worse than they would have anyway. Of 14 heterografts only four could be regarded as successful and that only questionably. It is sufficient only to mention some of the indications for which ovarian grafting has been tried, such as menorrhagia, amenorrhea, osteomalacia, sexual frigidity, nymphomania, and chlorosis. I have little sympathy with such operative experimentation.

There is, however, one indication for ovarian transplantation which seems to me thoroughly justifiable. I refer to operations done with the hope of pregnancy ensuing.

The problem presents itself under two aspects: Where a woman still has one or both ovaries left and it is a question of rendering it possible for ova to find their way into the uterine cavity, and where it is a question of transplanting an ovary from another woman. In this latter class the utility of heterografts is a questionable one. As Martin says, there is a very distinct antagonism of the blood and tissues of one individual to those of another, while there is practically no such antagonism between the blood and tissues of an individual to grafts from her own ovary. Results of heterografting are in the main very disappointing, even as regards menstruation, but Martin believes that they would be more satisfactory if the grafting were done sooner after the original loss of the ovaries, before the patient has lost the habit of menstruating, so to say. In one case of heterografting he had, however, menstruation start up and continue some months after a year's abeyance. The problem further arises in the very unlikely event of a living child being the result of a heterograft that there may be some difficulty in saying just whose child it is. This may be only an academic question, but that it is a real one was shown by a somewhat acrimonious discussion at the Edinboro Medical Society when such a case was reported. While the child would of course theoretically be the offspring of the donor of the ovary, I think most women would be content to feel that if they had given birth to it they were justified in regarding it as their child. Interesting questions of heredity naturally might arise. There have been reported three cases of living children born as the result of heterografting and three or four pregnancies resulting in miscarriages. Of course I admit that in these cases we

must always face the suspicion that a tiny piece of the original ovary was left behind. Sauvé rather ungenerously remarks that pregnancies following heterografts should be viewed with suspicion as most of them come from the country, where in some thirty published cases pregnancy has followed "castration" without grafts. When, however, there has been a post-operative amenorrhea for a year or two, and then after a heterograft menstruation followed by conception has occurred the case seems proven.

A dozen or more cases of pregnancy following autografts, however, seem to justify the operation, in spite of most of them having miscarried. The problem may present itself in two ways. In the contingency of its being necessary to remove the ovaries in a case in which the tubes are patent it is a very simple thing to graft a portion of the ovary near the orifice of the tube or to do so in cases where it is necessary to amputate more or less of the tube. In cases, however, where the tube has been removed well into the uterine cornu the problem is a more complicated one and it is a case of this latter category that I shall report tonight.

I reported the following case briefly in this society some years ago, but have not published it. The procedure I followed was original as far as I then knew, as I had not heard of the somewhat similar operations by Frank in 1898 and Dudley in 1900.

F. D. was first seen April, 1904. She was a strong woman of 24. She had had both tubes and the left ovary removed by Dr. Beach three years previously for an acute gonorrheal salpingitis of a month's duration. A month later no gonococci were to be found and when I saw her she had been menstruating normally and was in perfect health, with no evidence of gonorrhea. Matrimony was now contemplated but it was contingent upon its being at least possible for her to become pregnant. She had, by the way, occasional slight pains in the region of the appendix and right ovary, which was fixed and prolapsed. Understanding fully the probability of nonsuccess she demanded an operation.

April 12, 1904, assisted by Dr. C. O. Kepler, I found the omentum and the intestines densely adherent to the old scar and bladder and fundus. In breaking them up the outer intestinal wall was injured in two places and overcast with catgut. The remaining right ovary was freed with much difficulty and proved to be a pretty poor one, being riddled with cysts, especially in its right half. The tubal stumps were about half an inch long. The right tubal stump was divided downwards until the uterine cavity was laid well open. The ovary was then bisected from above downwards, carrying the incision well down into the broad ligament, so that each half of the ovary retained at least some of its original blood supply. The cut surface of the distal half was then closed with catgut, leaving that half to function in case the other half died. The proximal segment of the ovary was then introduced into the cut in the uterine wall and lightly anchored in place with fine catgut, in such a way that most of its cortex projected into the uterine cavity. The uterine wall was then brought together over it and its pedicle, in which there was a fairly good sized artery, with deep and superficial layers of catgut. The pedicle was sufficiently long not to pull the fundus over to the right at all. A chronic appendix was then removed.

Six days later a pelvic abscess was drained by the vagina. A month after the operation she menstruated in perfect comfort, more so than for three years.

I saw her again in January, 1905. She had been menstruating regularly but for the last few months with increasing pain, and finding a mass to the right of the uterus I opened her again and removed a shell representing the degenerated remnants of the piece of ovary I left *in situ* and a peritoneal cyst the size of a child's fist. I examined the seat of the transplanted ovary with much care but could find nothing abnormal nor any trace of its pedicle, which may have been lost in the many adhesions present. At the same time a small ventral hernia was closed. She made a good recovery but did not menstruate for four months. She was then put on various emmenagogues and on May 25 flowed for one day. In June, July and August she flowed normally and evidently the transplanted ovary was working perfectly. She was unwell Aug. 1 and on Nov. 4 I received a letter from her attending physician from which I quote. "She now comes to me with symptoms of pregnancy and examination shows an enlargement of the uterus, bluish appearance of the cervix and labia. She has considerable nausea and has noticed an enlargement of the waist." A letter from the patient makes the diagnosis of pregnancy even more definite, so much so that one of the best obstetricians in America was engaged to attend at her confinement. My correspondent also speaks of a mass on the left side of the uterus "which worries him a little." "This mass is nodular with rather dense adhesions about it, yet it is not tender and she runs no temperature." This putative pregnancy was sixteen months after the transplantation. Everything went as should a normal pregnancy till Dec. 12, three and a half months after the last menstruation, when she passed with some hemorrhage a mass of detritus and the uterus rapidly decreased in size. In view of the physician's report and what took place it seems fair to regard this as the abortion of an early pregnancy, retained for some time after the death of the fœtus. In January she flowed and continued to do so but with increasing irregularity and nervous disturbances. About this time another surgeon removed some more peritoneal cysts, the mass to the left of the uterus my correspondent had spoken of.

Menstruation stopped entirely February, 1909 and I saw her in May. She was then the picture of health but a nervous wreck and her life a torment with hot flashes, eye ache and other symptoms of the premature menopause. She was now twenty-six. After she had been on corpora lutea for a time with little or no benefit, I advised a hysterectomy, in spite of her urging me strongly to transplant another portion of ovary from another woman, for she was by no means discouraged. Hysterectomy was done in February, 1911 in a western city and I understand she died thirty-six hours later of streptococcus infection.

If this case was pregnant as seems probable, and she had not aborted, the interesting question arises as to what would have been the course of labor. It would also seem to bring out that the tube plays

merely an accidental part in conception if, as seems agreed, conception usually takes place in it. While the untoward final result in this case is to be deplored, I confess to a desire to further experimentation.

A STUDY OF THE EPILEPSY OF DOSTOJEWSKY.*

BY L. PIERCE CLARK, M.D., NEW YORK.

FOR some time past I have been interested in a study of the psychogenic factors of epilepsy. First I made an intensive research of the everyday personality of the epileptic before the convulsive part of his malady had developed. The material consisted of about twenty-five cases, carefully collected and controlled. As the result of that study I found there was a fairly definite type of makeup.[1] From the viewpoint of that study I undertook to analyze many of the individual cases still more in detail; I found that the essential defect in the epileptic makeup was in the affective sphere of the mind; there existed an emotional infantilism due to a defect in development of the psychosexual life. I was further able, by dream analysis and by close study of the minor, and in some instances of the major attacks, to detect an analogous striving of the unconscious in the fit not unlike that of the dream, the two states not only frequently corresponded in content but were often reciprocative. In other words, the epileptic attack was a libidinous satisfaction to the epileptic individual and the fit possessed a varied yet thinly disguised sexual content of the dream, only the former was much more intense and complete and therefore not so often recoverable in memory content after the attack had passed. It was not only a wish but a fulfillment. It was also found both in the dream and in the analyzable epileptic episodes (composed of psychic and minor fits mostly) that the libidinous strivings were simple and infantile. Viewed in this light the settings of the fit led one to believe the epileptic attack was an unconscious desire to return to the state of the libido comparable or identical with that of intra metroerotism. This and many other interesting facts were brought out. While the study was in progress it occurred to me to see how many great persons in history may have shown their disease in such a manner as to support this theory. Obviously many historical inaccuracies will creep in to the published accounts of such individuals, but inasmuch as many writers have made a precise and detailed analysis of such, the study will not be without interest.

I shall undertake to give a brief sketch of some of the salient points in the epilepsy of the late Russian novelist, Dostojewsky, who was long a sufferer from the malady. I have been obliged to depend largely upon translations made for me from the Russian literature and on the admirable essay of the subject by Segaloff, whose work appeared several years ago in Munich. Doubtless many have already read this work, but for those who have not, these notes may be of some interest. Segaloff's treatment of the subject is in many respects so excellent an illustration of my theory of the mechanism of epilepsy and its essential contentions of this malady that I shall offer no apologies for commenting upon it at this time. The main tenets of my thesis but briefly outlined in its main arguments and conclusions I here present as a sort of preface sketch to this dissertation.

Dostojewsky's romances abound in psychopathic characters. Russian alienists long marvelled at his expert knowledge of psychopathology, which he evidently obtained from self study. Even in early childhood he had hallucinations and it is generally known that he was epileptic.

Strakoff's recollections of him state that all which Dostojewsky wrote had been lived through by him with fervor and devotion. Dostojewsky was one of the most subjective of authors, whose novel characters were created from his own. His gloomy moods appeared in his works.

As a rule Dostojewsky had convulsions monthly, sometimes, however, twice a week. When he lived abroad, in a milder climate and was spared from sources of excitement, his attacks were much less frequent—up to intervals of four months intervened. There were always prodromal feelings before attacks although at times even he was deceived. Strakoff was present at an attack in 1865. The novelist visited him toward 11 p. m. and a lively conversation was soon in progress. The subject is not recalled, but it was an abstract one and weighty. Dostojewsky became enthusiastic and paced the floor. In enraptured tones he spoke of things sublime. As Strakoff made a remark of approval, the novelist turned his inspired face full upon him, and his exalted excitement was readily seen. Dostojewsky paused for a moment as if in search of a word, with open mouth, but no utterance followed. Strakoff felt that something was about to happen. Suddenly from his open mouth came a peculiar, prolonged and meaningless cry and Dostojewsky fell senseless to the floor. The attack was not a violent one but he had convulsions and foamed at the mouth.

Dostojewsky told Strakoff that he always had a feeling of ecstasy before these attacks. His sensations of happiness were so intense that no normal mind could experience them. He said his feelings were in complete harmony with the world, and for a few seconds of them one would give ten years of his life. The attacks sometimes caused slight injuries, and the convulsions were followed by muscular pains. There was often a temporary failure of memory and for

* Read in abstract before New York Neurological Society, Dec. 1, 1914.

[1] A Personality Study of the Epileptic Constitution, Amer. Jour. Med. Sci., Nov., 1914, No. 5.

two or three days he felt quite prostrated, and very melancholy. He was possessed by a certain anguish and irritability which could hardly be mastered. He felt himself a criminal guilty of some offense unknown to him. One of his characters in "The Karamasoff Brothers" suffers in the same way and for the same reason. Milukoff, another who knew him, speaks of certain alleged peculiarities of Dostojewsky, such as avoiding acquaintances on the street, refusing to acknowledge greetings in society (he even would ask, "who is that man," when greeted by some friend). Milukoff admits that such things may have occurred, but is certain that if Dostojewsky behaved in that manner it was after an attack. Dostojewsky had once taken tea at Milukoff's house, and just as a glass was handed to him he turned pale, began to totter and as soon as he was led to a sofa he had a fit. Fifteen minutes later he asked what had befallen him. When told he should stay all night he refused decidedly, saying he must go home, but couldn't or wouldn't give a reason for going. He even refused a carriage to the station, saying he needed the walk. His host nevertheless went along. As they were passing through a park Dostojewsky came to a halt and whispered that he felt an attack coming on. He was led to a bench but no attack appeared. There were two similar false alarms before Dostojewsky reached the station where a relative was found who took the train with him. Next day Milukoff visited Dostojewsky at his home. The latter was very weak and did not at first recognize Milukoff.

It appears from Solowjew that Dostojewsky had his first attack while in exile and was never afterwards free. He remembered down to the finest details everything which happened to him before the disease appeared,—every event in his life, every face, everything which he had ever read or heard. But of that which happened after the first attack, much has been forgotten. He often completely forgot those who had been well known to him. He even forgot much that he himself wrote. In writing his romance, "The Devil," the contents of the book were forgotten and he often had to reread the preceding chapters before he could go ahead with the story.

Solowjew states that after a crisis Dostojewsky was often insufferable. His nervous state was so marked that he was quite irresponsible. He often came in the room like a black cloud, forgot to greet people and sought opportunities to quarrel. It appeared to Dostojewsky that everything which was said to him was vexing, insulting, or it was done to excite him. The conversation had to be brought to his pet subjects about which Dostojewsky would then become enthused. After an hour of such gentle treatment Dostojewsky would be in the best humor. Only his pallor, brilliant eyes and heavy breathing showed that he was mentally disturbed. Such changes of mood are often found in Dostojewsky's books

In the youthful recollections of Sonia Kowalewsky she says that she and her sister knew of Dostojewsky's disease, but never dared to speak to him of it. He himself once introduced the subject and told how the first attack came about. It was something as follows: While in exile he had been punished in the house of correction. He was isolated from his fellow beings and could exchange ideas with no rational person. Suddenly an old friend visited him, on an Easter night. Forgetting the sacredness of the occasion, both began to converse on literature, art, philosophy and religion, during which hours passed. The friend was an atheist while Dostojewsky was a believer in Christ and immortality, and an argument started. Dostojewsky became greatly excited. It was now early morning and the bells began to call the faithful to arise. Dostojewsky felt a sense of ecstasy, thought he was in Paradise (as was also Mohammed, another epileptic). During this ecstasy the first attack appeared.

While he spoke thus to the sisters, his mouth failed to articulate, his facial muscles twitched, he evidently saw the fear and anxiety in the girls' faces, they feared that an attack was due. He smiled and told them not to be afraid as he always knew when an attack was pending. However, he told them later that he had had an attack at the time.

From the preceding testimony there can be no doubt that Dostojewsky had epileptic attacks. In the first attack the sound of church bells was an auditory aura. Dostojewsky admitted afterward that no bells really rang. The unspeakably ecstatic feeling was associated with nearness to Heaven or Paradise.

For two or three days after the attack Dostojewsky was in the twilight state. The morose nature and great irritability showed the extraordinary action of the disease upon him. He wrote "The Devil" when his disease was beginning to tell on him, as was plainly evident in the character of the book. The circumstantial, detailed treatment is characteristic of the epileptic activity, and as a result the work lacks in cohesiveness. Malice and intolerance are also shown to a remarkable degree.

The preceding covers the period of 1860 to 1880. It should be added that Dostojewsky had a mania for roulette. In 1863 he started on a tour but lost all his money in this way, and this happened more than once. During this period the attacks were unusually frequent, and he was doubtless insane as a result. He had a fixed belief that he would win and once was 4,000 francs ahead and not playing. His wife begged him to be satisfied, but as he had sometimes been 30,000 francs ahead while playing, this was impossible. He lost everything, even his own and his wife's personal belongings. How infantile, foolish or defective this may have been I shall leave others to judge. The indictment is only so strong as one is inclined to personally make it.

As far as known Dostojewsky was very temperate in both eating and drinking. He was fond of sweets, was a heavy smoker and consumed much tea and coffee. But little is known of any affairs with women. As already stated, he was married. He was born in Moscow in 1823 and was the son of a physician. Their circumstances in life were moderate and Dostojewsky led a life confined in small compass. Not much is known of his childhood. The mother was sickly and died of consumption in 1836, so young that Dostojewsky was raised partly by nurses who told him gruesome stories. He was very impressionable and imitative, and was on the lookout for the novel. The father under took the boy's education. He was a stern man, a military physician, and was a stickler for discipline.

In 1831 the boy moved to the country and there plunged into rural life, developing a love for nature, and became absorbed in folklore from peasants. He was much given to revery. As a reader he was precocious and he limited himself to literature proper. He was a great admirer of Pushkin, whose death in a duel occurred near that of his mother's. These deaths gave him a great shock. It is authentically reported that he lost his voice, probably a psychogenic episode.

In 1837, when Dostojewsky was nearly fifteen, he entered the School of Engineering at Petersburg and remained four years there, but found the discipline very severe. He developed tuberculous symptoms which would seem to have been little more than scrofulous glands. His cough may have been due to excessive smoking. He remained an engineer only until 1844, when he at once devoted himself to his first novel, "Poor Folks." Soon afterwards he became a member of a literaray coterie to which belonged Tolstoi and other to-be-famous men. His novels were very successful and he was a prolific writer.

Long before his first epileptic attack he was the victim of so-called neurasthenia or some hypochondria. An alarming symptom was a lethargic sleep. A state of depression coupled with anxiety about the future troubled him. At times he lived in a dream for long periods. Yet in 1849, when he had trouble with the Government, all his mental symptoms left him and he began to show admirable qualities; he exhibited patience, tranquillity, etc. He believed that his arrest saved his reason. Evidently his numerous nervous and mental symptoms were all psychogenic. His lethargic sleeps, however suggest that he was already on the way to an epileptic career. One medical man who treated him before his exile pronounced him of the epileptic temperament, and said that some of his disturbed episodes were so severe that his mental integrity was threatened.

In Dostojewsky's works we find no less than five types of epileptics. In "The Landlady," written in 1874, before he had developed his full talent, is a character named Murin, an old man, in whom we see the "epileptic character" without any effort. He has the moods of Dostojewsky when the latter was young. The attacks described, however, are crude, as any layman might view them. The influence of alcohol on epilepsy is shown, Murin has a seizure after drinking a glass of wine.

The second type is represented by "Nelly" in a work written in 1861 after Dostojewsky had been banished and had had time to study his own case. The influence of heredity is shown in this work. The grandfather (maternal?) was "odd." The mother was exalted, readily excited and inclined to reveries. Her stubbornness in holding certain ethical views was readily mistaken for a strong will. The child's life was miserable and became worse after the mother's death. She was of pronounced epileptic character. Her attacks are described as follows: "After a prolonged stare (at some person) she gave a fearful cry, her face was distorted, and she fell to the floor. After the convulsions she looked fixedly at the same person as if trying to collect her thoughts. At last her face lighted up as she began to comprehend. For a long time she could not collect her thoughts and murmured meaningless words. For a long time she did not fully regain her senses. Reality was much mixed with fancies, and it seemed that something fearful excited her soul. Finally she fell into a deep sleep. She was pale and her lips were still bleeding. Her face, despite the sleep, showed great fear and a painful longing. Once when Nelly was requested by the physician to take medicine, she spat it out three times in succession in his face. Astonished at his good nature she began to sob in despair." In this work we see excitability, moodiness, sensitiveness, suspicion, want of psychic balance and endless oscillation between exaltation and apathy.

The third type is seen in "The Idiot" (1868). The boy had had attacks since earliest childhood Sent to Switzerland for treatment he improved so much under expert care that he figures in the story as a well developed human being. His appearance betrayed nothing. His eyes were large and blue with a leaden color of the iris and a fixed look which to some suggested epilepsy. There was in him something silent and melancholy. Describing his attacks in childhood he said that after a series of violent seizures he was left apathetic, without recollection. His brain worked, but not logically. He could not connect more than two or three ideas. As the attacks became weaker, his condition improved correspondingly. An inexpressible longing possessed him. Often he wished to weep. He marvelled at everything, was excited over everything. It depressed him very much because all about him was strange. This epileptic, the Count Mischkin, is a good man, and has fine feelings. Abnormal only is his naiveté, which often borders on stupidity. His will is

weak, so that it lends him something boyish and immature. Like Dostojewsky himself, he writes a beautiful hand.

Associated with Mischkin are accounts of the twilight state which are of great value to the psychiatrist; also the feelings and thoughts of an epileptic in his "sound" movements; thus, to quote Dostojewsky's text, "At times he looked about him with great curiosity, but most frequently was quite indifferent, not even knowing where he himself was going. He lived in painful excitement and restlessness, wishing to be alone, yet finding solitude unbearable. Presently he finds himself occupied with something, a former employment. He has been so occupied for a long time but has not known it. He begins to seek something but at once forgets it. After half an hour he resumes the search restlessly. He knew that before his attacks he is distracted, often confusing objects and faces and requiring all his efforts to prevent blunders. It was necessary to give his full attention for a long time to everything he saw. In his epileptic states there would suddenly be a clearing up of consciousness, when his mind would glow and all his old powers return. The sensation of living, of self consciousness, would be accentuated tenfold. These periods, however, lasted but an instant. During their existence all excitement, doubt, restlessness vanished suddenly, replaced by full harmony, joy and hope. These bright moments, however, really presaged convulsive attacks and therefore were unendurable. He looked back on them, however, as glimpses of a higher existence but nevertheless pathological. This was the paradox of his disease. There could be no doubt of the beauty of these moments. They were not like the sensations due to alcohol or opium. One such experience compensated for all the evil of the disease and was worth a whole lifetime. In such moments he felt that some day time would cease to exist." Thus one catches a flavor also of Dostojewsky's style of treatment of his characters. Continuing one reads, "No doubt Mohammed's religious faith was based on these experiences, thought Mischkin. He had similar moments. The soul was flooded with a wonderful inner light. Yet the time required was but half a second! This moment passed at once into the cry of an epileptic seizure. Everything human has vanished for the time. The voice which is heard is not human. In one attack Mischkin falls down a stone stairway. Once when in company Mischkin was excitedly discussing a subject. Gradually a feeling of infinite happiness came over him. He ceased speaking save to answer questions and at last became completely silent. He sat quietly and listened, and seemed to sink in happiness. A sublime inspiration filled him more and more, and he was ready at any moment to 'burst into flame.' Then he began to declaim with passion, strove for breath, was as if suffocated with the excess of goodness in his heart. He ceased to breathe, became pale, seated himself and began to look about, regardless, with flaming eyes. His word storm, in which one thought followed so quickly upon another, forboded some danger, and in fact he shattered a vase. When this was past he felt himself struck to the heart, filled with mystic horror. Another instant and this gave way to a feeling of light, joy and inspiration. Then he began to breathe again, taking deep breaths. The expected severe attack had not taken place. For a long time he remained confused. He beheld and understood what was going on but seemed to himself to be only an unseen onlooker, taking no part in anything. Then once more he began to declaim. He spoke with increasing inspiration, saying things he did not intend. Another period of full ecstasy followed and then the attack came. After a series of strong psychic disturbances, minor attacks and psychic episodes his reason began to darken." At the end of the story we find him in a Swiss institute hopelessly demented.

The fourth type of epileptic is Kiriloff in "The Devil" (1871-2). To quote text from Dostojewsky's novel, "Externally he presented nothing singular but his speech is striking. He speaks in monosyllables or broken sentences and one notices at once that his thinking is difficult. His ideas are associated in the strangest fashion. His contemplations are religious-mystic, which are rooted in his illusions and hallucinations. He has no convulsions but psychic equivalents. He says of these, 'For seconds, not over five or six in all, in which there is a sudden feeling of infinite harmony which fills the whole of existence.' This feeling is not earthly nor is it necessarily heavenly. But an earthly being cannot tolerate it, and must be physically transformed or perish. It is as if one suddenly felt within him the whole of Nature and said, 'Yes, this is Truth.' So the Creator might have spoken as he finished the world. Here is no commotion, only simple joy. The feeling is not only that, but something higher. Terrible it is that these feelings are so clear, this joy so powerful. If this mood should last over five seconds the soul could not endure it and must perish. During these few seconds one lives through an entire life. Of what need is posterity, when the entire goal of life has been attained." We find that Kiriloff has one or two of these experiences weekly, and they never usher in severe attacks. He was told that they would do so eventually. Mohammed flew through the entire heavens before the water could flow from a can. It required five seconds to empty the can, and for Mohammed to have an epileptic fit.

In "The Karamasoff Brothers" (1879-80) we find Smerdjakoff, a classical epileptic. His mother, an idiot, wandered about clad only in a chemise. His father was a debauche. The boy was born in a truck garden and he was raised by the brothers. At 21 he was shy and silent. He was, however, high spirited and apparently despised all mankind. In his childhood he killed

cats and buried them with pomp. Once when whipped he crawled into a corner where for a week he looked vexedly at all people. Once he took a box on the ear calmly but afterwards went into a corner as before. After a similar experience he had his first convulsion and they continued throughout his life, both mild and severe in type. In time he came to despise food. He would toy with a mouthful for a long time, finally deciding to eat it. After several years of instruction he changed greatly, aged rapidly, was pale and wrinkled and had the look of a eunuch. Visiting Moscow he took but little interest in it but learned to appreciate good clothes and clean linen. He became an excellent cook and his other interests were clothing, pomades, perfumery, etc. Men and women he despised alike.

Finally Smerdjakoff had a trick of gazing on the ground for some minutes. Walking along he would suddenly stop, lower his head and stare downward for ten minutes. Whether he simply stared or was fixed by something in his own mind puzzled those who saw him. Dostojewsky says in the text, "These people are not uncommon. It is probable that he was collecting certain impressions. As a result at some remote period an epileptic might begin a voyage, burn a house, etc." However, one of the brothers upon questioning him found always a deep pathological self love.

What are the special points brought out in this cursory study of Dostojewsky, especially in the light of our present day knowledge of epilepsy? First, that he had the infantile type of mentality. He reckoned or dated all things from his own inner consciousness. He was intensely egoistic, most of his reported conversations were but monologues on his part. Still earlier he was intensively devoted to his mother; had a psychogenic or hysteric episode after her death; had an intense antagonism to his father who was a stern disciplinarian and from whom he revolted to his tutors who fed him upon the gruesome tales his fancy craved. He could not take on or submit to the onerous discipline in the engineering school and left it with a thorough distaste for it owing to the strictness of the discipline. He continued to develop his self-centered characteristics, failed to observe the conventions of society, did not recognize friends in these fits of abstraction. He inconvenienced his friends by requiring the household arrangements to be changed to suit his own convenience. He had childish tantrums and odd ways of defying the physician's prescriptions of foods. Quite some time before his epilepsy developed his personality underwent further changes, he had fits of depression and anxiety, lethargic sleep after which he seemed to strive to continue his life in a dream. He also had periods of extreme irritability, embittered himself with governmental authority and suffered in lonely exile. Here in the light of recent psychoanalytic research, one notes with interest that after a revolt against the government, which is unconsciously the adult father, Dostojewsky at once lost the neurasthenic and hypochondriacal symptoms and became patient, tranquil, etc. Dostojewsky himself believes his mental integrity was saved by this action on his part. To an intense egoistic nature who suffers intensely under the chafing restrictions of the paternal rule the revolt against such authority often permits a freer range of the libido and the repressive symptoms before such an act of revolt often disappear completely. One cannot, however, be quite clear how much of the suppression of the libido was relieved, as it seems Dostojewsky's epilepsy also showed about this time, although in a somewhat masked form. He was definitely epileptic soon after he took up his life in exile, perhaps the attacks carried off much of the pent up repression of the libido as has been noted in many another epileptic. Often migraine attacks, lethargies and abstractions are to be found in the preconvulsive stage of an after frankly diagnosable epileptic.

The account of the first genuine attack, much of which was to recur in subsequent seizures, is characteristic. One should note especially, after long confinement, the expansion of the ego, possibly the inflation of the infantile unconscious in the term of Hoch; the meeting with an old friend; the religious controversy; the insistence of Dostojewsky in establishing the orthodox tenets of a paradise in the hereafter; the aura, and the inflation of the unconscious at the beginning of an attack. Again the feeling of oneness with truth and the eternal verities of the universe in the attack, and then Dostojewsky was in ecstasy of a minor attack. The expansion of his ego at the beginning of an attack (the sense of *allmacht*) the oneness with the peace, security and safety of paradise itself, strongly suggest the unconscious strivings to revive the infantile memories of the mother life and its paradoxal qualities. Regarding the latter, I hope at another time soon to dilate with greater emphasis in a comparative study of the epilepsies of St. Paul, Plutarch, Mother Ann Lee, Mohammed and even Joseph Smith, the latter of whom, as is not frequently known, died epileptic. In time it will probably seem less strange that much of our religious conception of Heaven which has been fashioned by epileptics out of their unconscious conceptions of the mother life should be so satisfying to the entire human family.

All of the outcroppings of Dostojewsky's egoistic and infantile feelings and ideas in the minor attacks and in the beginnings of the major attacks are over and over again elaborated in Dostojewsky's novels as we have seen. Lest too much stress be placed upon the epileptic's own responsibility and his shortcomings for his disease Dostojewsky now and then accounts for the epilepsy in many of his novel characters by family heredity from which his creations sprang.

We see in Dostojewsky's personality the dis-

organization of the mind, the replacement of bad judgment, faulty memory and childish reversions in character as the result of indulgences in his disease. The same is also portrayed in all his novel characters. Dostojewsky also mentions how his characters all mend when the individuals grow better of their disease. Yet the persistence of the naiveté, the weak and vacillating will, the boyishness and immaturity of Count Mischkin's mind under a partial restoration from his disease shows Dostojewsky's unconscious but deep appreciation of the infantile make-up of the epileptic constitution and probably of his own character as well.

Finally, it is interesting to note the probable unconscious workings in Dostojewsky's mind when he wrote "The Devil;" no psychoanalyst needs to be told that the devil is the father symbol in a derogatory sense. Dostojewsky often forgot the thread of the narrative in this story and had to reread much of the manuscript to finish the succeeding chapters. In it all lies a virile hate which Dostojewsky cannot repress or seems to make little effort to do so. It even goes far to mar an otherwise admirable piece of writing. The malice, hatred and intolerance shown in this novel is much more than the situation would ordinarily seem to demand. Dostojewsky told one friend that he so hated the book and its subject he could never reread it once it had been written.

OCCUPATIONAL DISEASE AND THE PUBLIC HEALTH.*

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RHODE ISLAND in population and area is a small state, but the things she does are done in a big way. According to the 1910 census the state ranked fourteenth in the amount of its products turned out, this value totaling $280,344,000. In the 1951 manufacturing establishments in the state there were in 1910, 114,000 wage earners, 46,000 of which were centered in Providence. From these figures one conclusion certainly is inevitable, and that is, that there is here a very evident necessity for control over the industrial welfare of the workers of the state. Nothing is more important to the public health than the conditions under which the average man earns his daily bread. It is in this field that conditions of good or evil have the most far-reaching influence upon the morbidity and mortality rates of the state and upon the health and welfare of the state's citizens.

From the point of view of responsibility another important factor is disclosed by the 1910 statistics,—a factor which may have been somewhat modified by the new State Labor Laws of 1912-13,—and that is the unusually large number of the especially susceptible women and children that is employed in the industries of Rhode Island. Of the total industrial population over 16 years of age, 36,000, or 32%, were women—the highest percentage in the United States. There were in that year 5,000 children under 16 years of age working in Rhode Island, 4% of the total industrial army,—the largest percentage in the United States with the exception of the child-labor cursed Southern states of North and South Carolina and Georgia. Unable to protect themselves, especially susceptible to many forms of industrial disease, this portion of the industrial workers makes a specially urgent appeal for protection to the conscience of the community.

It is not the purpose of this paper to discuss in particular Rhode Island conditions nor indeed to present in any detail the special features of occupational disease control. This is not an industrial hygiene conference and consequently for the most part the remarks shall be restricted to the more general features of the problem. It might be well, however, in so far as it is reasonable, to select our illustrations from the local field. Certain features of Rhode Island industry lend themselves most admirably to this treatment, as would be the case in any community

As is universally known, the state (quot[illegible] again the 1910 census figures) was second to one other only in the manufacture of woolen and worsted goods and fifth in cotton textile manufacture. It is widely recognized that these industries offer especially difficult problems from the points of view of ventilation, dust control, etc., and in industrial hygiene are classified as dangerous trades, particularly because of the exposure to vegetable fibre and animal fibre dust. As might be expected, there results from this dust exposure an increased susceptibility of the pulmonary tissue to infection with a consequent increase in the morbidity and mortality rates from tuberculosis. It was found, for instance, in England and Wales in 1902, as reported by the Registrar General, that among males employed in cotton manufacture between the ages of 15 and 19, the death rate per hundred thousand from tuberculosis was 82 as compared with a rate of 54 for all occupied males of that same age period. The tuberculosis death rates for the woolen and worsted workers bore much the same relationship to the average, the rate per hundred thousand for woolen workers being 69 as compared with 54, the figures for all the workers in all industries. Undoubtedly the statistics for textile workers in this country, did we but have them, would illustrate fully as effectively the relation of this dusty trade to tuberculosis. It must be obvious that these conditions both at home and abroad cannot be remedied until certain specific preventive methods are universally applied. It is impossible to dis-

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cuss in detail these corrective measures, but many of them are obvious, such as improved methods of ventilation, scientific dust removal, the wearing of respirators, the provision of eating and dressing rooms, general educational measures among employees by means of placards, leaflets, lectures, etc., a rigid and periodic medical examination, the discouraging of untimely female labor, the use of selected non-alcoholic labor, the development of intermittent labor with shorter hours and an attempt to retain regular employees, etc.

We are all aware that industrial disease is an important factor in the public health of any industrial community. Unfortunately, very few of our states have labor statistics sufficiently accurate to be used as a basis for determining the exact significance of this industrial disease factor. On the other hand, for the United States as a whole, based on extremely comprehensive German labor statistics, the American Association for Labor Legislation has estimated that by the 33,500,000 workers in the United States in 1910 there were lost because of sickness 284,000,000 days. It is estimated that the total financial loss in this year alone, including wages, loss to industry and medical cost, was $772,857,000. This is not only a tremendous loss in efficiency, a great economic waste and an extremely poor conservation of human resources, but it is placing an unnatural limitation upon the social and economic welfare of the most vital part of our national structure—the great mass of workers. It is estimated conservatively that at least one-third of this disability is easily preventable.

It must be remembered that the average man in the United States is an industrial worker having a family depending for its health, progress and happiness to a large extent upon the man's working conditions. It is easy, no doubt, for social workers to understand the inevitable social and economic reaction between the work and the home. It must be remembered also that in certain instances industrial disease itself manages to reach indirectly through the worker to the home and its members. Everyone is familiar with the symptomatic picture of lead poisoning—its anemia, discolored gums, paralysis, blindness and insanity. This may be the picture of the male lead worker poisoned with the metal. On the other hand there are many cases on record where the disease has been acquired by the wife even when her only contact with lead industry was through the washing of her husband's lead-impregnated clothes, a poisoning preventable by the provision of factory dressing rooms and insistence on a change of outer garments upon leaving the factory. This is a particularly distressing picture because of the fact that lead poisoning is an affection of even greater seriousness in women than in men for they may add to the usual run of symptoms a sad succession of stillbirths and abortions. Sir Thomas Oliver has said that it is practically impossible for a lead poisoned woman to give birth to a normal child.

It is impossible here to discuss in detail either the practical methods or the administrative principles of control. From a national and state point of view, however, it can be indicated in outline that the necessary controlling factors are somewhat as follows:

1. A thorough-going scientific labor law.
2. The coördination of authority.
3. Honest enforcement of the law including an adequate system of factory inspection.
4. Effective educational work.
5. An adequate system for the reporting of industrial disease.
6. A sickness and accident compensation system.

All Rhode Islanders are probably aware that one of the chief industries of their state is the dyeing of the textiles. As long ago as 1906 there were, according to the Rhode Island Commissioner of Industrial Statistics, 7,578 workers engaged in the dyeing trades. There is a particular poison associated with this industry as a result of the use of chrome dyes which, while not as serious as lead or phosporous poisoning, is ofttimes incapacitating and consequently the cause of economic loss. The skin ulcers or chrome holes, as they are called, and the nasal septum perforations, are, on the other hand, easily prevented with the use of gloves and respirators. Another example of specific industrial danger to be found in the state is the manufacture of felt for felt hats where, in the impregnation of the hides with mercury, a dangerous poison is introduced into the felt and hat trades. The dust and fumes arising, if inhaled, absorbed or ingested, excite a frequent picture of mouth ulcers, insomnia, tremors, and sometimes fatal exhaustion, all of which can be prevented by dust removal, the use of gloves, mouth washes and tooth brushes and frequent dental and medical inspection.

Although there are many specific poisons occurring in industry, lead poisoning occurring itself in over 150 trades, nevertheless the great mass of workers are not subject to any special affection. From this point of view there would seem to be little foundation for the recent statement that under present social and economic conditions all industry is a disease. On the other hand, far outweighing the sequelae of specific toxemias are the more general evil results of unhygienic factory conditions and unwise labor stress such as the multiform neuroses and the cardiac and tubercular affections. We have touched briefly on the relationship of tuberculosis to the textile industry. A similar relationship is found wherever workers are employed under unhygienic and insanitary conditions for long periods.

As you probably know, Rhode Island leads the country in the manufacture of jewelry. In a statistical study conducted by Dr. Frederick L. Hoffman in 1908, it was found that in the

jewelry industry in the age period from 25 to 54, 59.5% of all workers dying, succumbed to tuberculosis, whereas the rate for the same age period for all industrial workers at that time was only 31.3%. Another Rhode Island industry is pearl and bone button making and it was found by Dr. Hoffman that for the workers in this industry for the age period 15 to 24, the percentage dying of tuberculosis was 50 as compared with a general rate for all the United States industrial workers of 27.8%.

Tuberculosis in industry is, of course, associated particularly with the dusty trades, and considering the various types of dusts that occur in industry such as the metallic, the mineral, the municipal, the vegetable and the animal, it is estimated that there are probably 800,000 workers engaged in dusty trades in the United States. In many factories and shops, moreover, we must add to the trade wastes the bad physiological and psychological effects of over-heating, the contamination from overcrowded workers and often excessive moisture.

We have not touched upon the degenerative affections and accidents consequent to the stress and strain of such an industry as that of iron and steel production. We have said nothing of the great field of industrial accidents and we must now ignore these industrial factors to consider for a minute what might be said to be, in roughest outline, the most urgent necessities of this state in the field of industrial welfare. There has not been time to make a careful study of local demands and consequently, to the knowledge of many present the following may be exceedingly incomplete.

In fifteen or more states there is a law relative to the reporting of occupational diseases. This law usually requires that the physician attending the case report to the proper authorities, either the Labor Commissioner or the Department of Health. A penalty of from $10 to $200 is affixed for failing to comply with the law. Now, two years ago such a bill was introduced in Rhode Island but after a hearing, was never reported. Of course Rhode Island ought to have such a law.

Most of you have heard of the disease known as the "bends" or caisson sickness, often associated with work under compressed air where proper precautions are not taken during the decompression process. The American Association for Labor Legislation has recently drafted a model bill on this subject and last year it was passed by the New Jersey legislature. This, or a similar enactment, is recommended by the Association for the state of Rhode Island. The Labor Legislation Association also intends to introduce in the Rhode Island legislature in January a sickness insurance bill which was drawn up by the Social Insurance Committee of this Association as a measure for use in the campaign for health conservation regarding sickness in industry, similar to the Safety First movement in accident prevention. Thus can the state aid in the extension of the compensation principle to occupational diseases as well as to industrial accidents.

Of course, the citizens of Rhode Island are interested in workingmen's compensation for employees of the Federal government. At the present time the Kern-McGillicuddy Bill, H. R. 15222, has been favorably reported by the Committee on Judiciary of the House of Representatives at Washington. This bill needs strong popular support and consequently letters and resolutions should be addressed to the Rhode Island representatives in Congress urging them to give their hearty support to this meritorious measure.

According to the December, 1913, Review of the American Association for Labor Legislation, "at least six branches of government are authorized or required to enforce labor legislation in this, the smallest state in the Union." This includes factory inspectors, the Bureau of Industrial Statistics, the Railroad Commission, the Inspector of Buildings, the school authorities and the police authorities and is sufficient evidence surely of the necessity for concentration and the coördination of control.

There is a great necessity here as elsewhere for constructive educational work in connection with the enforcement of sanitary and safety standards. This educational work should be carried on by the state, by the vocational training schools, by private philanthropic organizations, by labor unions and by employers.

There is needed here, as everywhere, the ability to make genuine value judgments in health matters. We spend money wisely for health when we attempt to control communicable diseases; we spend it foolishly when we attempt to make our health budget cover such non-health activities as plumbing inspection and nuisance abatement. From the point of view of health values industrial hygiene is of prime importance and we must realize that the health of the worker is essential if industrial evolution is not to be abortive.

There are many things of a more general, national or indeed international importance which must be taken into consideration especially by the creative, socially-minded individuals who are able to discern other than simply material values in industry and who are desirous of having palliation succeeded by prevention and cure in social reform. As a nation, we must realize in the first place the tremendous economic waste resulting from our national inability or disinclination to conserve the human resources in industry. Perhaps this will not be done until it is brought home to the industrial organizer that it actually pays to give at least as much attention to the human machine in industry as to the mechanical device. To quote a recent editorial in the *Journal of the American Medical Association.*

"Abbe (Zeiss Optical Works in Germany) kept a careful record for the years when

the plant was operating on a nine-hour day. When the working day was reduced to eight hours the record showed the men earned over 3% more than during the previous years, the output of the works was increased 3% and the power plant was able to shut down an hour earlier, thus affecting a very material saving in the fundamental expense. The record was for 233 men of 31 years and many different occupations on a piece-work basis were represented in the shop.

"Both employers and employees need to be convinced of the evident fact that the healthy man is the most efficient and the cheapest employee and that any reasonable expense to maintain him in health is a profitable investment."

It should be realized that our industrial system involves not only a waste of money and men but also of energy and enthusiasm. The men in Rhode Island who are making pearl buttons and who have nothing but pearl buttons to look forward to for the rest of their life are employed at a deadly hope-killing occupation and are quite naturally not going to put into that occupation any more interest and energy than is necessary. Is there a remedy for this? It is difficult to tell—certainly none has ever been tried on a large scale at least. One has been suggested, however, by an English writer and somewhat worked out by him in his discussion of the alternation of employments. This involves a periodic and progressive shifting from trade to trade at least in allied industries and requires of course intelligent governmental supervision, so necessary from every point of view, rather than the haphazard anarchistic industrial control or lack of control of today. This thinker believes, and certainly our own experience would seem to confirm it, that most men will work at a high pitch at a new thing, especially if they have in view a better thing to follow. In this way society would obtain both quantitively and qualitatively a superior service from the individual, and as a result of the concentration would require less actual working time from the individual, thus allowing more time for the preliminary educational period, and because of increased earning capacity, a greater saving against the nonproductive old age.

Such a scheme would seem to be the only logical alternative to a further development of a more continuous specialization in industry, to a more fixed labor class and to the ultimate expression of the idea that man is first a worker and then a citizen as embodied in the pitiable program of "I. W. W. ism" in industry and syndicalism in politics.

It is inevitable that part of the labor of the world must always continue to be comparatively uncreative and unimaginative. However, the ultimate cessation of immigration, more immediate impending events in the industrial world, point the way to the time, not far distant, when there will be no army of men always content to do "the dirty work" of the world. There is also a time coming when the state shall recognize the right of all individuals to work and grow socially and spiritually as well as materially—a thing scarcely possible for a man who is to be concerned with continuous drudgery or with one minute industrial process all his life. Is there a remedy for this condition? That also is hard to tell, but there is a plan, outlined by William James, that calls for an industrial state in which no class shall toil unceasingly but, through a conscript labor army, everyone, man and woman, will have the preliminary years for education and development, will spend his allotted time doing the foundation work of the world under the direction of the state on a basis of service to all, and not for the financial gain of the few. All the big necessities of life such as transportation, mining, food distribution and production, etc., must come under government supervision. For the individual to work his allotted time in this great industrial army will be to perform a great and recognized service to the state. Thus will drudgery be regulated and rendered innocuous. Here will be at last a legitimate field for militarism.

This may be exceedingly fantastic. It is at least, far in the future. It is an attempt to answer the many questions that are being asked of organized society with ever increasing intensity. Is industry to be reorganized by the intelligent, coöperative, sympathetic effort of a society with an awakened social consciousness, or is it to be seized and wrecked by the maddened and exploited? Is the spirit of gain to be replaced by the spirit of service or by the spirit of revenge? Is class distinction to grow and class war to come, or are the classes themselves to be socialized into extinction? Shall it be the constructive evolutionary path or the destructive revolutionary one? Shall poverty be enlightened and destitution made impossible? Pretty far from occupational disease? Yes and no. Far from the palliative treatment of this social defect but very near perhaps to the heart of the cure of the great social maladjustments of which preventable disease in industry is a manifestation.

MODIFICATION OF TECHNIC FOR HARE-LIP OPERATION.

BY W. E. LADD, M.D., BOSTON.

BELIEVING that perhaps there may be some surgeons besides myself who have had difficulties in performing hare-lip operations with uniformly gratifying results, I am offering a modification in the technic for their consideration.

The main principle of all hare-lip operations is the restoration of the normal line of the alveolar

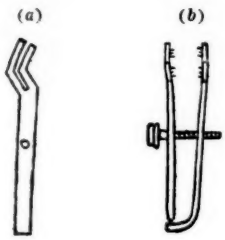

Fig. 1.
(a) Shows front view of clamp with slit for knife.
(b) Side view showing teeth, etc.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

process as a preliminary procedure, followed by freshening of the edges of the fissure in the lip and sewing them together. In order to obtain a good looking lip with an inconspicuous scar it is absolutely essential to observe two rules: First the incision for freshening the edge of the fissure must be a clean cut made vertical to the plane of the lip; secondly, the incision on each side of the fissure must be of exactly the same length. Otherwise, accurate approximation is impossible and an unsightly irregular lip will result.

Some surgeons may be blessed with sufficiently accurate hand and eye to accomplish their result, "free hand," so to speak, but I believe there are many who will get better results by the use of instruments of precision.

The ones which I have devised and found useful are two pairs of clamps (see Fig. 1), made on a suitable angle with fine teeth to prevent the skin or mucous membrane from slipping, and a slit for the introduction of a small knife to make the incision. The knife used is made double-edged like a Catlin, only very small and thin (see Fig. 2). These instruments are used in conjunction with an ordinary small pair of sharp-pointed metal dividers. (See Fig. 3.)

The procedure of the operation is as follows: After the alveolar process has been restored in the usual manner, the desired height of the lip, minus the width of the vermillion border is determined with the dividers. This distance is then marked off on either side of the lip by pricking the lip with the sharp ends of the dividers at the points A and B and C and D (see Fig. 4) which are to form the lines of the incision. The lip and cheek are then freed from the alveolar process and superior maxilla on both sides until the fissure can be drawn together without tension. The clamps are then applied with the angles of the slits at the points A and C and the slits directed towards the points B and D. The knife is now introduced into the slit in the clamp and carried upward to the nose and downward through the border of the lip, making the incisions B A E and D C F (see Fig. 4). The

Hare lip before operation.

After operation.

clamps may now be removed and re-applied out towards the angle of the mouth to control hemorrhage.

The edges of the two incisions, which of necessity must be clean incisions of equal length and consequently fitting each other, can now be easily approximated, bringing the points B to D, A to C, and E to F (see Fig 5). This is done with one row of interrupted silk stitches, including all layers but the skin tied inside and another row of superficial approximation stitches of the same material, including the skin only, and tied outside.

This technic is applicable to all forms and varieties of single hare-lip, a fair example of which may be seen in the accompanying photographs before and after the operation.

Clinical Department.

PARTIAL TENOTOMIES BY THE TODD-HARMON METHOD.*

BY HOLBROOK LOWELL, M.D., BOSTON.

Assistant Surgeon, Massachusetts Charitable Eye and Ear Infirmary; Assistant Surgeon, Boston City Hospital.

NOTE: Since this paper was written the writer has become convinced that this operation was performed by Dr. F. C. Todd some six years previous to Dr. Harmon's article. Therefore the title has been changed, thus giving Dr. Todd credit for the precedence and Dr. Harmon credit for once more calling it to our minds in a most concise manner.

EVER since the writer began the practice of ophthalmology he has been particularly interested in heterophoric cases. He has tried blurring in esophoria, and prisms and exercises in exophoria. Tenotomies, tuckings, and advancements have produced fair and indifferent results. There has always been a feeling that it was rather a gamble as to just what result would be obtained in these cases. Some form of graduated tenotomy has always seemed the least haphazard and the more scientific procedure, but none of the numerous methods advocated have created enthusiasm enough for the writer to try them.

In the *Ophthalmoscope* of January, 1913, Dr. N. Bishop Harmon of London, England, published an article entitled "Lengthening a Rectus Tendon in Squint Operations." The writer was so much pleased with the simplicity and ease of control in the operation described that he has since, with gratifying results, performed the operation four times on patients with phorias, who had marked general and locally distressing symptoms. The liberty is taken of quoting below a portion of Dr. Harmon's article, to refresh the reader's memory.

*Read at the nineteenth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology, October 20, 1914.

"The delicate methods of Stevens, Landolt, and Gromsdale require much patience, and then the result depends upon a frail suture. Verhoeff's partial plastic tenotomy is extraordinarily neat on paper, but is difficult to perform on the living subject, and I am not convinced that any real slacking of the tendon is secured. I evolved a method of three cuts which gave me all I wanted. It was so simple that it seemed that some one must have done it already, and in Casey A. Wood's new text-books of eye operations, I find nearly the same method figured, but if the author of the operation—Dr. Todd—will forgive me the criticism, it seems that he has just stopped short of doing what he sets out to do. The steps of the operation, and the effect, can be seen very well if it be practiced upon a piece of narrow adhesive strapping stretched between two fingers of an assistant. The tendon to be lengthened is exposed a short distance from the insertion. Supposing it to be an internal rectus, a small vertical buttonhole is cut parallel to the plica semilunaris and close to its edge. Tenon's capsule is cut and pushed back similarly, a squint-hook is passed beneath the tendon and slowly lifted, so as to draw the tendon into view, then two cuts are made in the same edge of the tendon, one on either side of the hook, as far as possible, so as to divide the tension at each cut up to the middle line of the tendon. Then the hook is pushed slightly to one side so the cut may be made from the opposite edge of the tendon, between the two cuts already made, and this cut is made from the edge right across the middle line of the tendon so as to sever two-thirds of its width. Immediately the third cut passes beyond the middle line, the tendon will be felt to give and it will yield distinctly as the cut is continued."

Discussions of this operation, and operations performed for the same purpose, elicited the opinion that the immediate result would be no more than ten degrees lessening of the phoria. In spite of the discouraging consensus of opinion, the operation was undertaken with some degree of confidence. In the following case the operation was done on the internal rectus of each eye.

CASE 1. Nov. 15, 1912. Mrs. H. W. F., myope, age 34, severe headaches for the past fifteen years. Examined repeatedly with and without a mydriatic. Complains of pain through right eye, with no full relief from pain at any time. Appendix has been removed, turbinates operated upon, and an Alexander done. Has been in a sanitarium for nervousness several times. She is often awakened in the morning by severe pain in head. Fundi normal, pupillary reaction good, cornea clear, tension normal; small opacity in posterior surface of lenses. V.O.D. 20/30+, V.O.S. 20/70+. Esophoria seventeen degrees at twenty feet, tested with twelve degree prism base down, on the right eye. Esophoria between twelve and fifteen degrees at twelve inches. Homatropine ordered for examination.

Nov. 16, 1912. Ordered correcting glass with a three degree prism base out, in either eye.

Dec. 13, 1912. Above glass gave relief for four days, when same symptoms came back. Ordered:—

O. D.—.50 cyl. ax. 170 with 6 degree prism base out = 20/20.

O. S.—1. sph.—1.25 cyl. ax. 10 with 6 degree prism base out = 20/20.

Dec. 31, 1912. Last glasses do very well, though cannot read or sew, because she complains of seeing her nose. Esophoria seventeen degrees plus. Ordered +.75 added to her distance prescription with 6 degree prism base out, O.U.

Jan. 24, 1913. Old symptoms returned again Partial tenotomy advised on left internal rectus. The operation was done according to the Todd-Harmon method, described above, the middle cut being carried a little farther than two-thirds the width of the muscle, as the greatest possible lengthening was desired. Immediately after the operation, prism base down before the right eye showed an esophoria of two degrees.

Jan. 29, 1913. There are no headaches at all. Esophoria three degrees at twenty feet. No movement with cover test. Ordered distance glasses prescription without prisms.

Feb. 12, 1913. Patient had severe headache again, complains of "pulling" of the right eye from inner manthus. Esophoria six degrees at twenty feet. Patient insisted that operation be done on right eye because of the "pull." Right eye was operated upon without incident, but the middle cut was not carried over two-thirds the width of the muscle, as only a moderate shortening was desired. The eyes were not tested immediately after this operation because of the patient's nervous condition.

Feb. 22, 1913. Conjunctival stitches were removed; orthophoria at twenty feet.

March 6, 1913. Cover test shows no movement. Feeling as though eye were "held in a vise" no longer present. Eyes white and quiet. Esophoria without glasses 1½ degrees at twenty feet, with glasses 2½ degrees.

Sept. 24, 1913. No movement with cover test, 2½ degrees at twenty feet. Orthophoria, thirteen inches.

June 11, 1914. No movement with cover test, with and without glasses. Esophoria without glasses, at twenty feet, 2 to 2½ degrees, with glasses 3 degrees. Patient says that she is free from previous headaches and other distressing symptoms.

CASE 2. July 24, 1912. Mrs. H. M. D., age 36, has had severe frontal headaches for past month; has been given glasses to rest eyes. V.O.D. 20/15—, V.O.S. 20/15—. Esophoria, twelve degree prism base down, twenty feet, fifteen degrees; at thirteen inches, nine degrees. Solution 1% homatropine ordered for examination. Ordered:—

O.U. +.37 sph. +.25 cyl. ax. 90 with 4 degree prism, base out.

Aug. 3, 1912. Complains of blurring with the new glasses but advised to continue using them.

Oct. 14, 1912. Esophoria has increased to twenty degrees at twenty feet. Ordered same prescription as above with 6 degree prism base out,

Nov. 7, 1912. Last glasses cause headache and general discomfort. It was decided to try a marked blurring glass with less prism. Ordered: +1.25 sph. +.25 cyl. ax. 90 with 4 degree prism base out O.U. Esophoria at twenty feet, twenty-six to twenty-eight degrees.

Nov. 19, 1912. Some trouble wearing glasses; advised to continue their use.

Jan. 28, 1913. Broke the last glasses. Esophoria twenty feet, twenty-seven to twenty-eight degrees. Marked movement with cover test. Operation advised.

Feb. 9, 1913. Operated on left eye, doing partial tenotomy. Middle cut was made as long as possible. There was so much pain resulting from stitching up the conjunctiva that the immediate result of the operation could not be tested.

Feb. 11, 1913. Patient had pain for about four hours after operation, but slept well. No headache.

Feb. 14, 1913. Some discomfort because of stitches. Esophoria twelve degrees, twenty feet. To wear old glasses.

Nov. 6, 1913. Esophoria fifteen degrees twenty feet.

June 11, 1914. Esophoria at twenty feet, with twelve degree prism base down, ten degrees; with Maddox rod fourteen degrees. Marked movement, cover test. Patient says she will have her other eye operated on next fall.

CASE 3. Apr. 7, 1913, Mr. W. F., age 62, marked diplopia. Cover test shows left eye turning up. Had considerable nausea, and much pain in back of his head, running down left side of his neck. V.O.D. 20/30, V.O.S. 20/20—. With +1. O.U. 20/15. Left hypertropia fifteen degrees. Operation advised.

Apr. 8, 1913. Partial tenotomy done according to the Todd-Harmon method on superior rectus, left eye. Orthophoria immediately after operation.

Apr. 21, 1913. Patient reports gastric symptoms have gone, and no longer diplopia, except when he looks very high up and to the right. Eight degrees left hyperphoria.

June 12, 1914. Four degrees left hyperphoria. Is not troubled by double vision, except when he looks up and to the right. Still some slight pain at times in left side of his neck. He has been so comfortable that it was necessary to write and ask him to report.

In summing up the foregoing results there are certain factors which should be taken into consideration. Patients with such marked phorias are of a highly strung, neurotic temperament, and it is a question whether this general condition is due to the phoria or vice versa. It is doubtful if it is ever possible to bring out all the latent phoria. However, the effort was made, in the first two cases, to bring out all the esophoria present.

In the first case the immediate post-operative result showed a correction of fully fifteen degrees. Eleven days after the first operation there were six degrees of esophoria and patient still had severe headaches. A few days after the second operation there were two and a half degrees of esophoria at twenty feet, that is, three and a half of the six remaining degrees had been corrected. In this second operation the middle cut was carried very slightly beyond the centre of the muscle. Fifteen months have elapsed since the last operation and three degrees of esophoria are present, the patient has freedom from the previous distressing symptoms, in spite of the fact that there has been much illness in the rest of her family.

In the second case the post-operative result showed a correction of fifteen degrees of esophoria, leaving twelve degrees uncorrected. The patient reports improvement in general condition and less nervousness, and wishes the other eye operated upon in the fall. There are still twelve to fourteen degrees of esophoria uncorrected.

In Case 3, the immediate result after operation was orthophoria. Fourteen months have elapsed since the operation, there are four degrees of hyperphoria present, showing an apparently permanent correction of eleven degrees. The patient has been comparatively comfortable.

Since this report was begun the writer has had occasion to operate on several strabismus cases. In two instances the external rectus was tucked, and the internal rectus was partially tenotomized according to Harmon's method. The procedure proved quite successful and gave a sense of security very foreign to that usually felt after a full tenotomy operation.

THE TREATMENT OF PNEUMONIA IN CHILDREN. REPORT OF 104 CONSECUTIVE CASES.

By Harold W. Dana, M.D., Boston,

Assistant Physician at the Boston Dispensary; Second Assistant Visiting Physician at the Boston City Hospital.

This series of cases was treated by me during three years' service in Roxbury as district physician of the Boston Dispensary. There were 44 cases of lobar pneumonia and 60 cases of broncho pneumonia. Since I have not treated the two conditions as such differently from each other, the figures as to age periods include both types of the disease indiscriminately.

	NUMBER OF CASES.
Under one year	25
One year	21
Two years	15
Three years	12
Four to five years	14
Five to eight years	12
Eight to twelve years	5

Of the whole number treated, two cases died. One of these in addition to having pertussis as a complication, had taken almost no food in the week previous to beginning treatment. The other case, a feeble baby six weeks old, was not seen early in the disease. There was recovery in the other 102 cases. Many of these cases had pertussis or measles as complications to the pneumonia and in many cases treatment was not sought for until several days after the onset of the infection.

Home conditions were unfavorable in all of my cases in this series. The patients lived in a poor neighborhood, in tenement houses; often the parents were very ignorant and many of them were opposed to modern theories of ventilation. The fresh air cure is difficult to give anyway where a family of from four to eight people live in two or three rooms. There was little to do with, and of course since the nurses of the District Nursing Association could at the utmost make but two daily visits, my treatment was based on this amount of nursing. While, naturally, constant nursing care would be more desirable, certainly no nursing could have been more efficient, painstaking and enthusiastic than that which these patients in Roxbury received. In most cases we obtained the loyal coöperation of the mother and I feel certain that the care given by the nurse and by the mothers of the children produced the favorable results obtained.

The routine was as follows, in order of their importance:—

1. Fresh air constantly. Often, in winter, a child can be kept better covered and warmer if it be bundled fairly tightly into a baby carriage or a clothes basket, when it is to be put near an open window, than if kept in a bed.

2. Food. This is extremely important. If one is willing to take the necessary time and trouble, small amounts of liquids, or semi-solid food can be given to any child, and if repeated often, considerable nourishment can be given. Often the fact that a sick child does not wish food is considered by the mother as a sufficient reason for not giving the child any food.

3. Saline enemata. Long, slow, hot normal saline irrigations of the bowels once or twice a day are useful as a means of stimulation, to give water to the body, to reduce toxemia, and also for cleansing purposes. If necessary, calomel in divided doses was used for distention or constipation.

4. Cold applications to the chest. This was accomplished by wringing cloths out of cold water, applying them to the skin, covered over with newspaper to protect the clothes. These applications should be renewed when they become warm.

5. Bathing. These children received a tepid sponge bath, preferably followed by an alcohol rub, twice daily if the temperature reached 102.0° F.

6. Brandy. When the temperature is high or long continued I am personally in favor of large doses of brandy, perhaps 20 to 50 drops every two hours for a child one to three years old. The brandy is better not given with food as it may make the child vomit, or may make the food objectionable to the patient.

7. In one case in which I suspected a streptococcus septicemia, as a sequel to the pneumonia, antistreptococcus serum was given twice, apparently with brilliant results.

8. Drugs. As a routine all of these patients were given ammonium chloride and syrup of ipecac, using the fluid extract of glycyrrhiza as a

vehicle. For a child under a year I use a quarter to a half grain of ammonium chloride and a quarter to a half drop of the ipecac each two hours. For all children over a year I give a drop of ipecac for each year of the child's age each two hours, and a grain of ammonium chloride each two hours for a child from one year to twelve years old.

If the child is very sick, it is given tincture of belladonna, a quarter to a half drop up to eighteen months of age, and one to one and a half drops for older children each two hours.

A method I have found convenient for prescribing these drugs, is to add together the number of drops or grains of each ingredient desired in one dose, and then to order as many drachms of each to be put into the mixture as there were drops in each dose. For instance, for an eighteen months' old baby if I wish to give a grain of ammonium chloride, a drop of belladonna, a drop and a half of ipecac, using five or six drops of the vehicle, I write for the following mixture:

℞	Ammonii chloridi	3ss	(=gr. 1)
	Syrupi ipecacuanhae	3iss	(=Gtt iss)
	Tincturae belladonnae	3i	(=Gtt i)
	Extracti glycerrhizae fluidi	3vss	(=Gtt vss)
			(Total =8 drops)

M Sig. Give eight drops in a spoonful of boiled water every two hours.

As sheet anchors in case of need I use, first, tincture of digitalis, based on a minim and a half dose for each year of age each four hours when the heart action is weak and rapid; finally, as a last standby, I make a solution of strychnine sulphate and give large doses, one four-hundredth to one one-hundredth of a grain every four hours, stopping this drug after a day or so, or as soon as I can, to hold it in reserve for further need.

Medical Progress.

SEVENTH REPORT OF PROGRESS IN ORTHOPAEDIC SURGERY.*

BY ROBERT B. OSGOOD, M.D., ROBERT SOUTTER, M.D., HERMANN BUCHOLZ, M.D., HARRY C. LOW, M.D., MURRAY S. DANFORTH, M.D., BOSTON.

TUBERCULOSIS.

TUBERCULOUS rheumatism still continues to be discussed and the French seem to have won a German convert. Nohl[1] believes that a chronic affection of the joints with a dragging course, a tendency to ankylosis, and a lack of response to the salicylates, should lead one to suspect tuberculosis as the cause. If, in addition, the general health is more affected than the condition of the joints seems to warrant, Nohl believes that we are safer in treating the case as one of tuberculosis.

Raw[2] reports several cases in which there was a polyarticular "tuberculous arthritis" in patients having other severe tuberculous affections, either glandular or general. On the other hand, there was no evidence of arthritis in 6000 cases of pulmonary disease.

[Ed. Note.—The evidence which Raw presents does not go far to prove the frequent occurrence of the rather mild "rhumatisme tuberculeuse" which Poncet has described.]

Menard[3] states his belief that the only efficient method of treating Pott's disease, both as regards cure and the prevention of deformity, is by recumbency. Menard's experience is perhaps as large as that of any orthopaedic surgeon, and he is not unfamiliar with the work of other men.

Packard,[4] after many years of work, has reached the same conclusion.

[Ed. Note.—We believe that greater effort should be made, even among the poorer classes, to carry this out in all severe cases. We still consider too early weight bearing unwise, even if ankylosing operations have been successfully performed, though they may well shorten the period of recumbency.]

We continue to see favorable reports of the treatment of osseous and joint tuberculosis by means of the Roentgen ray. Biteroff[5] has observed some thirty cases treated in Wilms' clinic in Heidelberg between October, 1911, and April, 1913. In twelve cases a later examination was made and in nine others reliable reports were received. Among the twenty-one cases there were four which he excluded because of tuberculous disease elsewhere, but among the seventeen remaining, twelve showed definite cure, two a probable cure, and three considerable improvement. The sinuses closed in all cases within a few months. He recommends the removal surgically of as much of the diseased tissue as possible and insists upon general treatment being carried on at the same time.

Scaduto[6] has observed five cases treated by this method, *i.e.* by post-operative Roentgen ray exposures every two weeks for many months. He considers the combination a great progress in the treatment of tuberculosis of the joints.

[Ed. Note.—The benefit of Roentgen ray therapy in tuberculosis of the joints would be more conclusively proven by these reports if general and surgical treatment had not gone hand in hand with the Roentgen ray therapy. We are inclined to believe, however, from personal experience that in certain cases, especially those with sinuses and mild secondary infection, this method should be tried with some measure of hopefulness. We must never forget, however,

* This report is based on a review of 260 articles, etc., selected from about 500 titles having to do with Orthopaedic Surgery appearing in medical literature between December, 1913, and March, 1914. References are given to only such articles as have been chosen for report and comment.

the danger from x-ray burns or its effects upon the deeper glandular structures.]

Leuba,[7] evidently tremendously impressed with the cures in Rollier's clinic at Leysin of cases of tuberculous disease of the foot, many of them very advanced, declares that it is criminal to operate upon such cases. Many of these cases had been advised to have amputation performed and the photographs would seem to justify this advice according to the experience of the past.

[Ed. Note.—While the paper adds other evidence of the great value of heliotherapy as carried out at Leysin, there will remain many cases to be treated, which can neither go to Leysin nor remain inactive for the long period necessary to carry out the treatment by heliotherapy in any place. The results of tuberculosis of the foot and ankle as studied by Rogers[8] would seem to indicate that surgery under certain conditions is still the best method of treatment.]

Mau[9] has found in the blood of a large number of tuberculous patients and also of persons in health, acid-firm bacilli. He has not conclusively proved that these are tubercle bacilli, but believes them to be. He makes a plea for the consideration of tuberculosis in all its manifestations as a general disease and urges the continuation of general treatment for many years after the local lesion is apparently healed.

Küchenhoff[10] points out the fact that spinal anomalies may well prove a predisposing cause of pulmonary tuberculosis, especially to apical lesions, because in the "round shouldered" position with the curve of the upper spine forward, the apical space is narrowed.

[Ed. Note.—This observation is in keeping with statistics which show the common development of tuberculosis in persons whose chest expansion is slight and also in keeping with the fact that faulty posture and round shoulders are seen to be almost universal among those who make up the personnel of a tuberculosis clinic.]

Interesting inoculation tests have been made by Sforza and Cosco.[11] They have attempted to determine the extent to which muscle and bone marrow harbor the tubercle bacilli. They removed portions of muscle and bone marrow from tuberculous cadavera and injected them into guineapigs. In forty experiments they found practically no signs of infection when the pigs were inoculated with muscle tissue, but nearly all which had been inoculated with bone marrow died.

ARTHRITIS.

While acute articular rheumatism is considered a medical rather than an orthopaedic disease, the increasing tendency to seek at least the consultation of the orthopaedic surgeons in all chronic and some acute joint diseases makes any investigation as to the etiology of acute polyarthritis of obvious importance in any review on progress such as this. As is well known, Poynton and Paine many years ago believed they had isolated a specific streptococcus from joints of acute articular rheumatism. Phillip, Cole, Beattie, and others failed to cultivate any streptococcus, and Loeb was successful in only a few cases.

Rosenow's[12] experiments with his careful technic and detailed reports are of extraordinary interest. He seems to have isolated three types of organism from the joints of two cases, each of which types by special cultural methods may be converted into either one of the other two. Two of these, a streptococcus and a micrococcus, produced arthritis and pericarditis, but not myositis in rabbits and monkeys. They are all of low virulence and their affinity for joints and endocardium diminishes in cultivation. Grown with other bacteria and under low oxygen pressure, such as exists in the tonsils, sinuses, etc., they may acquire new features.

[Ed. Note.—Rosenow appears to be a veritable prestidigitateur and his successful transmutations are most astonishing. The confirmation of these observations will be of great importance. and in the meantime, as he suggests, we may well retain the term "streptococcus rheumaticus" until we can more carefully differentiate these varieties. The possible bearing of these experiments on vexed questions of the bacteriology of the different chronic non tubercular arthritides is evident.]

Barker[33], after an exhaustive study of the literature, finds that "the differentiation of the diseases included under the term chronic arthritis" is not so obscure a problem as he had expected. He recognizees along with others the almost impossibility, in the light of present meagre knowledge, of making a satisfactory etiological classification. There are too many missing links in the development of these diseases. Moreover the same late clinical picture may be present as the result of two very different original causes. An anatomical classification offers more hope and is more satisfactory than such terms as "static arthropathy" (Preiser) or "chronic irritative arthritis" (Hoffa and Wollenberg), but again our accurate anatomical and pathological knowledge is not at present accurate enough to make possible a satisfactory and inclusive classification on this basis. Barker recognizes the vitality and accuracy of certain descriptive terms and believes that much of the confusion which still exists is due to the attempt to make clinical and anatomical and etiological classifications coincide. As a working basis he suggests four divisions: I. Gout. II. Neuro Arthropathies. III. Primary Hypertrophic. IV. Secondary Chronic, including under this last heading Infectious Arthritis, as Luetic, Tuberculous, Gonorrhoic, Rheumatic (if it exists).

[Ed. Note.—It may not be amiss for the Editors to synonymize some of the various English and American attempts at classification under these headings.

I. *Gout.* This seems to retain its specificity in most classifications.

II. *Neuro Arthropathies.* Evidently here are included the tabetic joints, those occurring in syringomyelia, and possibly some of the types of atrophic arthritis (so-called by Goldthwait), which Osler and Painter and others have supposed to be possibly connected with a lesion of the central nervous system.

III. *Primary Hypertrophic.* This would obviously include the Hypertrophic type of Goldthwait and the Degenerative or Non-ankylosing type of Nicholas and Richardson, the Chronic rheumatoid type of Bannatyne, and the Osteoarthritic type of Llewellyn Jones. When speaking of Heberden's nodes, which belong under this heading, many writers use the term "Arthritis deformans." Strictly speaking this should be used as a general term for any deforming arthritis rather than as indicating any one type.

IV. *Secondary Chronic.* In this group should be included all those chronic joint conditions following special known etiologic agents, the great mass of which are either frankly infectious or at least toxic from some focus away from the joints. Here we should place probably some of the Atrophic and all of the Infectious types of Goldthwait, and the Acute and Subacute rheumatoid types of the English writers, and the Proliferative or Ankylosing types of Nichols and Richardson, although these authors believe that the causative agent is not an infection.

We have not mentioned in this attempt to synonymize the careful pathologic classification of Nathan, for while it is most helpful and valuable, it is less likely to be applicable clinically by the average practitioner. What we need at present more than anything else is the general recognition of such rudimentary facts as the very existence of specific types of chronic non tuberculous joint diseases, now far too widely classed as chronic rheumatism and treated by irrational medication and meagre success. When the profession at large comes to accept these facts, evident to all historical and clinical and pathological investigators, and learns to recognize the various types, calling them by what names they will, then we may expect less discouragment of therapy and a more rapid advance of knowledge which will some day lead to more accurate and generally acceptable classifications.]

The importance and possibility of this differential diagnosis of these types has been emphasized by Wollenberg[14] in a recent article, in which by pathological specimens and radiographs he shows the findings to be quite characteristic of gout (Type I, Barker), arthritis deformans (Type III, Barker), progressive polyarthritis and gonorrheal arthritis (Type IV, Barker).

In an article entitled, "General Pathological Considerations in Joint Affections," Delrez[15] has made some interesting observations regarding the joint fluid. If the cytological examination of this shows the polynuclear count low it argues in favor of a tubercular infection. Only the presence of bacteria themselves, and not the cell count, would determine whether the fluid were sterile or infected, since this cell count varies in both types at different times, now showing a preponderance of the polynuclear forms and now of lymphocytes. If the fluid withdrawn does not coagulate in thirty minutes it suggests complete recovery. When spontaneous coagulation occurs outside the joint this usually takes place in from ten to thirty minutes. Delrez has found, as have other observers, that the synovial fluid may be sterile but bacteria be found in the membrane. Analogous conditions are found in the pleural, pericardial, and peritoneal cavities. He states that Volkmann and König have shown that tuberculous arthritis is frequently caused by a neighboring bony focus and that J. Koch was able by injecting a streptococcus in the vein of a dog to produce an arthritis. The fluid withdrawn was sterile, but the streptococcus was found in the marrow, the epiphysis, and the periosteum. Delrez believes, however, that there are also articular infections primary in the synovial membrane, and quotes the experiments of Lannelongue and Archard on rabbits, proving absolutely in his opinion this independent origin of certain infections in the joint synovia with the bone uninolved.

Pemberton[16], using the term Rheumatoid arthritis in a somewhat indefinite and inclusive sense, has been studying its metabolism and attempting to discover methods of diet which will be preventive and successful in the treatment of chronic polyarthritis. We should say that most of his cases would come under the fourth type of Barker's classification above, that is, the Secondary Chronic Type, and would not include the third, or Primary Hypertrophic class. Pemberton points out that even the removal of the original cause may not be sufficient to put the disturbed metabolism in correct balance. He believes that the old ideas of faulty elimination of the bowels and kidneys and of intestinal putrefaction must not be too closely followed. His treatment is based on the regulation of the diet so that it shall first come within the limits of the disturbed faulty metabolism. That is, he begins frequently with a diet of low caloric value and with quite as much attention to the avoidance of too great quantities of carbohydrate food as of proteids. The diet is then increased very gradually. He has found this successful in markedly improving the condition in many reported cases.

[Ed. Note.—His articles are well worth careful study, not only because of the value of his research work, but because the emphasis is rightly laid upon careful individual attention to each case in the matter of diet. Little may be expected from any other type or dietetic treatment.

It may possibly be found as a result of the most suggestive studies of Traves[17] and Dreike[18], the later work of Bean[19] on the basis of the germ layers, and the still more recent articles of

Bryant[20] on personal records of over 200 autopsies, upon which we expect to comment more fully in a later Report of Progress, that we shall be able to lay down certain broad principles of diet, based on an ability to recognize certain broad general types of individuals and based also on the possible discovery that the different types are susceptible to distinct types of metabolic and joint disturbance. Thus many observers have recognized already the carnivorous and herbivorous types and the difficult intermediate class of human beings, the body form, the lengths of the different intestinal segments, etc., all conforming to a most constant degree. Already we are beginning to find clinically that one type does well on a largely meat diet, and badly on a largely vegetable, while another improves on vegetables and grows worse on meat. We would call the attention of those interested in this most suggestive, and we believe most helpful work, to Bryant's[21] Remarks and Bibliography on Stasis and Human Efficiency in the May, 1914, International Abstract of Surgery.]

Menzer[22] believes that all treatment of non-tuberculous joint diseases should proceed on the assumption that somewhere in the body is a focus of chronic infection. He considers that the commonest location of these central infections is in the upper air passages, the tonsils, the nasal sinuses, the bronchial lymph nodes, or the ear.

Ibrahim[23] is convinced that Still's disease is identical with chronic infectious polyarthritis of childhood and that the prognosis in all cases is by no means bad.

[Ed. Note.—We report these articles not as representing new conceptions but as adding the weight of further clinical observations to the infectious or toxic theory of much chronic non tuberculous joint disease. The acceptance of this theory will lead to the realization that as Menzer says, salicylic medication is not the proper treatment. It may relieve pain, but it does not combat the central primary cause, and interferes with the natural production of antibodies and the development of natural immunity.]

Tommasi,[24] interested in a statement of Prof. Pellizzari that gonorrheal arthritis occurred only in tuberculous subjects, studied all the cases of gonorrheal arthritis admitted to the clinic of the R. Instituto di Studi Superiori of Florence from November, 1911, to the date of his paper, comprising twelve cases. A positive diagnosis of tuberculosis was made when the von Pirquet reaction was positive. A positive diagnosis of gonorrheal arthritis was made when there was in addition to a characteristic arthritis a urethritis with a discharge containing gonococci. In every one of his twelve cases there was a positive von Pirquet reaction and nearly all were of a "build" suggesting susceptibility to tuberculosis. Some of the cases had evidently had previous tubercular infections. Tommasi believes that in a person infected with tuberculosis the tissues may be predisposed to gonorrheal infection, the protective reaction being weak to this special infection. He believes that the very fact that a person has a gonorrheal arthritis should lead one to suspect a latent tuberculosis and that treatment should be planned with this in mind.

Solis-Cohen[25] has called attention to a very obscure but, we believe, sometimes recognizable class of joint symptoms which he designates as angioneural arthroses (periarthroses, pararthroses). The etiology is obscure, and attacks come on and recovery occurs often unexpectedly and inexplicably. Practically nothing is known of the pathology, and the diagnosis may perhaps be said to be made largely by exclusion. The type of individual is usually neurotic and the exacerbations seem now to have one cause or set of causes and now another. He does not attempt to discuss the possible relation of any of the glands of internal secretion, but believes that supervision and regulation of the manner of living is of most importance.

Over treatment is, in the opinion of the editors, the greatest danger, considering our great lack of knowledge concerning both cause and effect.

PARALYSIS.

Cerebral-Spastic. Stoffel's[26] article on the treatment of spastic paralysis is an important one and we are beginning to receive reports, for the most part favorable, concerning the results of the operative treatment which he advises in certain cases. He believes, however, that early cases can be much benefited by non-operative treatment. He emphasizes the fact that there exists no complete paralysis of muscles in spastic paraplegia. The peripheral neuron being intact, the muscles are capable of contraction under electrical stimulation. He considers that there are two stages to the disease, first a more or less complete paresis and a diminution in muscle tone; second, a state of hypertonicity in those muscles whose origins or insertions are brought nearer together by the positions maintained in bed, and a hypotonicity in the overstretched groups. He believes that if contractures are not allowed to occur, the primary stage of paresis is curable and that the muscles can be re-educated into good function. In the cases such as are commonly seen in which contractures have already occurred, Stoffel believes that decreasing the energy of the spastic muscles and increasing that of the antagonist muscles is the principle of treatment to be followed. He considers that this can most perfectly be accomplished by an operation which he describes. With a knowledge of the internal anatomy of the nerve bundles within the sheath, he resects or divides some of the motor fibres going to the spastic muscles. By massage, exercises, and electricity he then strives to strengthen the weaker antagonists. He resorts in addition to tendon lengthening only when contracture is still present under the anaesthetic.

Hohmann[27] reports good results (number of cases not given) from this operation, but emphasizes the importance of long continued after treatment, and has noted the appearance of neuralgic pains in two of his cases one and two weeks respectively after the operation. He believes that the operation is indicated in cases of Little's disease, infantile cerebral hemiplegia, and spastic contractures in the hemiplegias of adults, but not indicated in those cases having choroeic movements, hydrocephalus, etc.

Bülow-Hansen[28] in Christiania reports his favorable experience with the operation in 22 cases, nine of Little's disease, eleven of spastic hemiplegia, one of spastic hemiplegia in an adult, and one a spastic torticollis.

Bundschuh[29] from the surgical clinic in Freiburg describes two cases of spastic equino varus and one of marked adductor contracture who were much benefited by the operation.

Kölliker[30] in Leipzig, on the other hand, believes from his experience that the operation is not as suitable as tenotomies in cases of Little's disease, but is useful in pronation and flexion spasms of the hand in cerebral hemiplegia.

A type of spastic paralysis occuring in certain cases of inherited syphilis, described by Marfan[31] should be mentioned, since it may well be confused with some of the other spastic paralyses. With treatment it is capable of cure, alleviation, or at least arrest, but without treatment is definitely progressive. Marfan has observed six cases, the paraplegia beginning between the ages of five and twelve. The gait at first is only a slight limp of the spastic type and may be more pronounced on one side. It is difficult for the child to flex the joints in walking, though the spastic rigidity largely disappears at first in sitting or reclining. The tendon reflexes are much exaggerated and Babinski's sign is present. In Marfan's cases the Wassermann was positive in several and in three there were signs of an interstitial keratitis. Salvarsan seemed effective in arresting the process in his first case (observed for over ten years) though mercury and iodide had failed. If treatment is begun early he believes the progress may be arrested and possibly a complete cure accomplished.

Poliomyelitis. Kling and Petterson[32] add confirmatory evidence to the experiments carried out at the Rockefeller Institute under the direction of Dr. Simon Flexner, with regard to finding of the virus of poliomyelitis in the washings from the nose and throat of healthy persons in the environment of a case of poliomyelitis. It would seem that whether or not the disease is transmissible by insect or animal carriers, the human naso-pharyngeal secretions should be most thoroughly destroyed in all cases of the disease, and perhaps as well the secretions of those in close contact with the sick.

Soutter[33] has devised an operation for the correction of the obstinate flexion contractures of the hip frequently observed in neglected cases of poliomyelitis. Its merits are its thoroughness, its simplicity, and its freedom from hemorrhage. A 6-8 cm. longitudinal incision downward from about 5 cm. posterior to the anterior superior spine is carried to the deep fascia, which is then incised in a transverse direction. With an osteotome or a sharp periosteal elevator the insertions of the tendons to the anterior superior spine and extending downwards along the pubic bone are scraped off and pushed downward with fingers and gauze. The bleeding is slight and the correction of the deformity easy.

[Ed. Note.—The editors have had most satisfactory results from this operation.]

Under the title of "A New Treatment of Poliomyelitis," Moulton[34] maintains that many cases of poliomyelitis may be prevented from permanent paralysis by energetic manipulative treatment of the spine. Quoting Osler he says that the paralysis is due not so much to the damage to ganglion cells themselves as to the effect of the inflammatory changes in the surrounding tissues. He believes that regeneration of the axis cylinder will take place if the nourishment can be restored. The inflammatory process has caused adhesions of fibrinous tissue which contract and constrict. By stretchings and swingings with the body suspended by the head or a waist belt he strives to break up these adhesions without injuring the nerve cells, bringing about at the same time an increased blood supply which aids absorption and stimulates vaso motor function.

[Ed. Note.—Moulton's reports of cases are vague, and while the possibilities of his treatment need not be denied, it is evidently unscientific and certainly in the early cases, we believe, dangerous. In our experience massage begun before the peripheral neuritis had subsided has aggravated the symptoms. With certain safeguards and with judgment its trial in cases beyond the acute stage would not seem likely to do harm, but would seem to differ little from the methods now employed by those well trained in physical therapy.]

(Concluded next week.)

Reports of Societies.

THE PHILADELPHIA COUNTY MEDICAL SOCITEY.

WEDNESDAY, NOVEMBER 11, 1914, AT 8.30 P. M.

The President, DR. WILLIAM DUFFIELD ROBINSON, in the chair.

DR. JOHN J. GILBRIDE reported a case of acute appendicitis with abscess formation in which the infecting organism was the colon bacillus, and in which the patient had a severe glycosuria. Recovery followed operation and drainage.

SYMPOSIUM: THE EYE, THE EAR, THE FAMILY DOCTOR.

DR. GEORGE E. DESCHWEINITZ read a paper entitled "Concerning the Commoner Diseases and Injuries of the Eye and Their Treatment."

DR. SAMUEL D. RISLEY: Under the light of modern research we have discovered that things apparently simple are complex. In no form of disease is this probably so much observed as in conjunctivitis. By the educated eye and with laboratory methods many essential differences are discovered not recognized by casual observation. We all must have been impressed with Dr. deSchweinitz's statement that to be an ophthalmic surgeon one must first of all be an educated doctor. With increased experience I am more impressed with the truth of what has been said tonight, that if tubercular infection of the eye does not stand first as an etiological factor in infections of the uveal tract and of the cornea it is very close to first in etiological importance. Again and again cases of headache have upon close study been traced to this infection.

DR. WILLIAM S. NEWCOMET: Reports come to us from outside the city of cataracts being cured by radium, but I cannot support any such form of treatment. We occasionally get good results with radium in the treatment of small epithelioma around the lids. In cases of true rodent ulcer, however, I believe we gain nothing, unless we cut wide of the mark and bring the tissues together by a plastic operation. In reported cases of cure there is failure to discriminate between the two conditions.

SOME CONSIDERATIONS OF THE NEWSPAPER ELEMENT IN PUBLIC MEDICAL INSTRUCTION.

DR. HIRAM WOODS, Baltimore: From the attempt of the medical profession in Baltimore to make use of the public press certain lessons have been gathered. Three phases of our relations with the daily press are: (1) Advertisement of patent medicines, various medical appliances, electrical treatment, opticians' cure of remote symptoms by glasses, etc.; (2) Descriptions of remarkable, or supposedly remarkable operations, details of illness of prominent persons, etc.; (3) Legitimate educational purposes. The first of these three, advertisement, has an influence upon the value of an educational article. Certain classes of people receive more lasting impressions from the claims of some medicine published on the first or last page than from a carefully prepared article stowed away in small type on the editorial sheet. Upon the second count we have found that men whose cases did not, and others whose cases did get into the papers, disapproved of the publication of unauthorized accounts of an illness or surgical operation. A committee was appointed from our profession to confer with the newspaper representatives. The report of our committee, however, failed of acceptance with two out of three newspapers mainly because editors did not wish to curtail their plans for running down a "story" in their own way. In our relation with the press, no one will question the value of the newspaper as a means of reaching the public, there can be no doubt of public interest in medical matters; and, I think we may also say that if we have advanced in preventive medicine, it is our duty to instruct the public in means of prevention. To make such instruction helpful, however, one must put himself in the place of the ignorant and the more or less sensation-loving portion of the public, those most in need of our instruction. For this work the help of the experienced reporter should be welcomed.

One point especially insisted upon by our Baltimore newspaper friends is that medical articles should be signed by a man known to understand his subject. Success in newspaper instruction must depend upon professional and journalistic coöperation. Possibly the solution lies in the medical society's assuming responsibility for the article, while giving the name of the author. Newspaper public instruction has more to it than furnishing anonymous articles and the background difficulties are the hardest to solve.

DR. A. B. HIRSH: That there should be united action on the part of the medical profession and of representative men of the press certainly appeals to those who have studied the efforts of our own County Medical Society's committees in what has been to us during the past year a relatively new field. Dr. Woods has our assurance that his suggestions have indeed fallen upon fertile ground.

THE RELATION OF THE TONSIL, ADENOID AND HEARING TO DEVELOPMENT IN CHILDREN.

DR. D. BRADEN KYLE: Tonsillar and adenoid tissues are physiological structures and their relation, as well as that of hearing, to the mental and physical development in children is of extreme importance. It is therefore apparent that the mechanical interferences with phonation, such as imbedded or enlarged tonsil, or the obstructive adenoid, should be corrected early in life before habits are fixed. Extreme care should be taken in correcting these defects that the muscular structure of the soft palate and pharyngeal pillars are in no way injured and thereby prevent the formation of scar tissue, which in turn would involve the mechanism of phonation later in life. It is extremely important for the parent, the physician and the teacher to take into consideration these mechanical defects, and watch the process of the child through the formative period of development. I do not wish to be understood as believing that all tonsils cause adverse conditions or that all tonsils should be removed, but I do wish to emphasize my conviction that adenoids and tonsils are in many instances the great enemies of perfect development of hearing and of speech. There are few children who suffer from impaired hearing who do not have this condition. There is no more fallacious and dangerous statement in the English language when applied to the ear, than that advice of letting the child alone to outgrow the cause, for we positively know that sooner or later it will be a menace, not only to his hearing but to his speech and general health. While the child's mentality may be normal more effort is required to attain development in the presence of obstructive adenoid structure than in its absence. In early childhood any obstruction to nasal breathing will affect the facial development and contour. This will affect the acoustics of the mouth and interfere with phonation and enunciation and alter the voice. The tonsil that is submerged is the one that nearly always is to blame for the infective processes in its region and in the neck and which proceed from the neck to the general system.

By careful attention to these conditions in childhood with removal of the causes the number of handicapped children will be materially lessened.

DISCUSSION.

DR. B. ALEXANDER RANDALL: I would express my almost complete agreement with all that Dr. Kyle

has said. I will go a step further and state my conviction that obstructed nasal breathing is more often a cause of adenoid hypertrophy than a consequence. We must have a free nose if we are to have these conditions remain anywhere near the normal. Unilateral deafness is a very serious handicap to those who may have perfect hearing in the other ear. If all sounds are taken in from one ear there is not only a delay in comprehension, but an amount of actual confusion very little appreciated. Upon the anatomical side I feel strongly about the essential nature of a free nose. There are many instances in which the high vaulted palate with the narrow nasal chambers are in part hereditary. Children should be taught early to keep the nose free. By hot gargling much can be accomplished by a method so ridiculously simple that many will not use it. By keeping the parts in good working order in early life many of these disadvantages can be forestalled.

DR. FRANCIS R. PACKARD: In a discussion of the pathologic conditions of tonsils and adenoid vegetations in the nasopharynx as they bear on the development of the child, there should be a distinction drawn between the two conditions. In respect to the influence of adenoid vegetations, I think their presence is invariably harmful, especially (1) by their interference with respiration; (2) by the ear conditions, either suppurative or nonsuppurative to which they give rise; (3) as sources of infection by the presence in the adenoid of tubercle bacilli or other pathologic microörganisms. Meyer's classic report which appeared in English in the Transactions of the Medico-Chirurgical Society of London for 1868, dwelt especially on the ear troubles arising from them, nearly two-thirds of the 102 cases he had observed having aural disease as a result of the presence of vegetations. The tonsils although sometimes an etiological factor in ear troubles and quite often a source of respiratory disorders, are now chiefly regarded as productive of harm by acting as portals of infection or autotoxemia, especially in what are grouped as rheumatic affections of the muscles, joints or heart, and of those general, slow toxic infections of which, heretofore, the source has been regarded as obscure.

Book Reviews.

Chemistry and Toxicology for Nurses. By PHILIP ASHER, Ph.G., M.D., Dean and Professor of Chemistry at the New Orleans College of Pharmacy. Philadelphia and London: W. B. Saunders Company. 1914.

This new volume in the publishers' series of text-books for nurses is intended as an elementary manual for probationers, and a reference work for graduates. After a preliminary consideration of nomenclature, the chemical substances used in medicine are described, with their medicinal properties, doses, and uses. The book is in three parts, dealing respectively with inorganic, organic, and physiologic chemistry. The toxicology of poisonous substances is considered in conjunction with each. There are three text-figures representative of apparatus. The book is concise, well arranged, and should prove of use and value to those for whom it is written.

A Medical Dictionary for Nurses. By AMY E. POPE. New York and London: G. P. Putnam's Sons. 1914.

This convenient new dictionary aims to provide the derivation, pronunciation, and detailed definition of medical words and terms of special importance to nurses. The dictionary, which occupies thirteen-fourteenths of the volume, is followed by supplementary tables of weights, measures, chemical symbols, abbreviations, elements, poisons, prefixes, suffixes, thermometric scales, and the average composition of common American food products. The book should prove of value to nurses and others in search of this type of information.

The Life and Letters of Nathan Smith, M.B., M.D. By EMILY A. SMITH. New Haven: Yale University Press. 1914.

This volume, published at the time of the centennial of the Yale Medical School, records the life and activities of one of its first professors, Dr. Nathan Smith, previously founder and for several years sole teacher of the Dartmouth Medical School, later associated with the foundation and early instruction of the medical schools of Bowdoin and the University of Vermont. It consists in considerable part of Dr. Smith's private letters, now first printed, and appropriately arranged, which reveal most intimately the character and versatile personality of this distinguished figure in New England medical history. A majority of the letters are to the late Dr. George Cheyne Shattuck, of Boston. The book is attractively illustrated with 24 full-page plates, and there is a delightful introduction by Dr. William H. Welch. An appendix records Dr. Smith's publications, and reprints in full his introductory lecture at Yale on "The Progress of Medical Science."

A Treatise on Clinical Medicine. By WILLIAM H. THOMSON, M.D., LL.D. Octavo volume of 667 pages. W. B. Saunders Company, Philadelphia and London, 1914.

The author has not aimed to produce a book of reference but rather a serviceable book for the practicing physician. In keeping with this idea the style is informal; there are exceedingly few references to the literature and much emphasis is laid on medicinal treatment. There are no illustrations. The very brief space devoted to the morbid anatomy of the various diseases impresses the reviewer as a serious drawback.

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126 Massachusetts Ave., Corner Boylston St., Boston, Massachusetts.

TRANSFER OF THE BOSTON QUARANTINE SERVICE.

IN the two preceding issues of the JOURNAL we have commented editorially on the proposed transfer of the Boston quarantine service from municipal to federal control. At the hearing held on this subject before the Common Council on January 1, the opposition to the proposed change was chiefly, as at the previous consideration of the subject last spring, from the shipping interests of the city. Mr. Jerome Jones, a member of the committee on maritime affairs of the Boston Chamber of Commerce, presented the following letter to Mayor Curley, representing the opinion of his committee on the subject:—

"The Committee on Maritime Affairs of the Chamber of Commerce deem it unwise, in that a change of jurisdiction would be a handicap to our port facilities, and I am not putting the question of facilities above the safeguarding of the community.

"I do not question Dr. Rupert Blue and his sincerity in doing what he can. At the same time we feel that the quarantine regulations at the port of New York have been safeguarded in every way, and they have been lenient in allowing ships to come up from quarantine with thousands of passengers later than sunset and before sunrise; thus facilitating the landing of the passengers and making the port attractive to both steamship lines and passengers.

"We have no doubt that the first federal officials would be accommodating, but from the experience in southern ports, where the change has been made, it has been found that the boarding officials' watches are always right at sunrise and sunset, and vessels have to wait in quarantine when the many passengers are anxious to go ashore and their friends come from distances to meet them. It not only affects this port, but all of New England and trade tributary to it.

"We feel that when New York adopts the change, as it is doubtful, it will be time enough for us here, and while we respect your desire to save the city's money, it should not be done at the expense of the facilities of the port. The tidal hour has much to do with big vessels coming up to the pier, and the denial of the quarantine officer might often mean waiting 20 hours for the flood tide. Boston and New York are the two largest passenger ports on this continent, and we certainly deserve at this port equal quarantine service."

ON the other hand the proposed transfer was advocated by Mr. Sullivan, the corporation counsel, by Mr. Edward H. McSweeney, chairman of the port directors, and by Drs. H. D. Arnold, G. H. Francis and O. R. Sedgwick, representing the Suffolk and Norfolk Districts of the Massachusetts Medical Society and the Boston Homeopathic Medical Society. At a joint meeting of the executive committees of these organizations on December 22, the following resolutions were passed:—

"That the best interests of the citizens of Boston demand a reorganization of the Health Department. The plan of a Health Commissioner, as a single officer responsible for the work of the Department would, in our opinion, be the most satisfactory solution of the problem, provided he be a man of national reputation and trained in matters of public health and sanitation. The proposed salary of seventy-five hundred dollars should make it possible to secure the services of such a man.

"We therefore recommend the passage of the proposed ordinance, now under consideration by the City Council, for the reorganization of the Health Department.

"Since this ordinance provides for the establishment of a quarantine division, and since His Honor, the Mayor, has recommended the transfer of the city quarantine station to the federal service, we feel that it is appropriate to express an opinion on this matter also.

"It is our conviction that the management of the quarantine station by the federal authorities would be conducive to the better protection of the health of this city and of the country at large.

"This is a matter of the greatest importance in view of the greatly increased danger to be expected from diseases brought by immigrants after the end of the European war.

"We therefore endorse the proposition to transfer the quarantine station to the federal authorities, and recommend the amendment in this particular of the ordinance to reorganize the Health Department."

IN another part of this issue of the JOURNAL we print in full the statement prepared for presentation by Dr. Arnold to the Common Council. This may fairly be taken as representing the attitude of the Boston profession. At the time of the hearing, action by the Council was deferred, but as the decision is one of importance and must soon be made, it is desirable that physicians generally should hold and express definite views. A comparison of the arguments for and against the proposed transfer shows that the opposition to it is based on questions of business convenience and advantage. Such considerations as these are probably ill-founded, as is shown in Dr. Arnold's statement. Even if they were not, they should not be allowed to weigh in comparison with advantages of administration and the interests of the public health.

THE PRACTISE OF MEDICINE IN CHINA.

AT the annual meeting of the Boston Medical Library on Tuesday Evening, January 12, Dr. Francis W. Peabody presented an interesting lantern talk on "Western Medicine in China," illustrating the advances made in the introduction of occidental medical science into the orient. Dr. Peabody speaks from recent experience, having returned but a short time ago from his work on the Rockefeller Commission in making a medical survey of China.

In this connection there is a considerable interest in the medical publications which have developed in the far east under the influence of western science. As in other matters, in the domain of medicine there is seen going on at the present time in the Celestial Empire the struggle, hard indeed, but destined to ultimate victory, of the modern and enlightened against the antiquated, ignorant and hidebound. The modern leaven is, of course, small as compared with the whole vast lump, but it is working and working powerfully. At various points there are well-equipped hospitals, medical schools, and laboratories, and there is now in China a very considerable number of European and American physicians, most of whom have had excellent professional training, while some are men of the highest scientific attainments. One of the agencies by which they make their influence felt is the *China Medical Journal*, which has just reached its twenty-ninth volume. It is published by the China Medical Missionary Association, a representative body, with branches in all the principal districts, and is a periodical which reflects great credit on that organization. One of its departments which is of special interest is that of tropical diseases. It solicits contributions from medical practitioners not only in China, but in Japan, Korea, Siam and the Philippine Islands, and many of its original articles are of great scientific value; such, for instance, as the report, in the issue for November and December, of the researches by Dr. H. E. Eggers of the Laboratory of Pathology and Bacteriology, Harvard Medical School of China, at Shanghai, on the spirochetic infection of ulcers in China.

In the same number of the *Journal* there is to be found an interesting paper by Dr. William W. Cadbury, of Canton, on "Medicine as Practised by the Chinese." While the author freely acknowledges his indebtedness to Jules Regnault's work, "Médecine et Pharmacie chez les Chinois et chez les Annanites," much of his material is the result of personal observation or derived from Chinese scholars familiar with some of the medical classics of their country. He divides medicine in China into two classes: the purely superstitious, which depends upon charms and magic, and the art of medicine as practised by the Chinese physician. In the city of Canton, he says, may be found temples dedicated to the "Spirit of Medicine," and the ignorant believe that the presiding deity will restore health upon the payment of small sums of money and the performance of certain rights. The Chinese physician, however, is a quite different individual from the Taoist priest, although magic and astrology form an important part of his armamentarium.

The practise of medicine in China is unli-

censed, and is usually hereditary, the "skilled" physician handing down his secrets to one of his sons. The study of human anatomy has been hampered by two factors: respect for the dead and the lack of any co-operation or organization among physicians. As the earth has courses of water, so man has courses in the pulse—six in number, three *yang* and three *yin*. The *yang* is the warm principle, actively flowing and symbolized by the sun; the *yin* is the moist principle, passively flowing and symbolized by shadow. If the former predominates there is excitation, and if the latter, depression of the organism; and the equilibrium of these two forces constitutes health. Six vessels carry the active principle, and six the passive, and the two spread through the whole organism by means of gases and the blood. The latter makes a complete circulation of the body about fifty times in 24 hours, passing twenty-five times through the male channels (those of the active principle) and twenty-five times through the female channels (those of the passive principle). The action of these principles depends on twelve organs and each of the organs has a canal by which it communicates with the others. Some of the communicating channels terminate in the hands, and some in the feet, and one of the vessels in the little finger is used to determine the nature of most infantile diseases. The viscera are classified under two groups, the first composed of six in which the *yang* resides, namely, the gall-bladder, stomach, small intestine, large intestine, bladder and left kidney; and the second composed of five viscera in which the *yin* resides, namely, the heart, liver, lungs and right kidney.

Auscultation and percussion are wholly unknown to the Chinese physician, and in making a diagnosis entire reliance is usually placed on the general facies of the patient and the character of the pulse. Sometimes the examination includes the tongue, and thirty-six symptoms are said to be made out from its color and the extent of its coating. The tongue and cheeks vary with the state of the heart, the tip of the nose with that of the stomach; from the general appearance of the face and nose the condition of the lungs may be determined; that of the liver by examination of the eyes and eyebrows, that of the kidneys by the ears, and that of the spleen by the mouth and lips. Each organ has its appropriate color, red corresponding to the heart, white to the lungs, black to the kidneys and bladder, yellow to the stomach and spleen, and blue to the liver and gall-bladder. Organs also have their own peculiar times and seasons. Thus the heart, the characteristic element of which is fire, is most likely to become inflamed at noon in the summer season. Two substances are found circulating in the body,—gas and blood. The former acts upon the latter as the wind upon the sea, and the result is the production of the pulse in the vessels. More stress is laid upon examination of the pulse than anything else. Usually the physician is satisfied with palpation of the radial in both wrists, but in difficult cases examines the pulse at ten other points in the body. This method of diagnosis is carried out to the utmost refinement, with separate palpations with each finger, etc., and there are no less than twenty-seven varieties of pulse which prognosticate death. The physician must be trained to palpate the pulse so skilfully that by this sole means the nature of a disease, and even the month of gestation in a pregnant woman, may be determined.

Curiously enough, the drugs and other medicaments employed are weighed out according to a decimal system; but the character of the remedies themselves scarcely corresponds with this enlightened procedure. Often a prescription is given because of the resemblance of a drug to the organ affected. Thus for renal disease haricot or kidney beans are ordered; the red flowers of the hibiscus serve as emmenagogues; saffron is given for icterus. Minerals are administered as salts; plants in the form of roots, stems, leaves, flowers and dried fruits. Tigers' bones are often ground up and given to a debilitated person, and among the other animal substances made use of are the dried bodies of grasshoppers and the shell of the cicada. Impotence is treated by preparations of testicle or of nervous tissue, and diseases of the liver and eyes by pork liver. In certain districts cooked human blood is considered an excellent remedy, and at executions people may be seen collecting the criminal's blood in vessels. Pills are frequently made with a thick coating of paraffin; this is meant to be broken off, and the contents chewed up. They are generally so large that they could not be swallowed otherwise. Various forms of plasters and blisters are applied to the skin, and the actual cautery is in common use. Occasionally acupuncture is resorted to, and 388 points in the body are described as suitable for its performance. The theory on which its use is based is

that if one punctures the vessels connecting different organs the disease will become absorbed.

In the last few years two so-called charitable hospitals have been established in Canton for the treatment of the sick according to native methods, but no surgery is practised at these institutions.

THE TRANSPLANTATION OF TISSUES AND ORGANS.

THE transplantation of tissues in the human body is one of the important developments of modern surgery. Beginning with the simpler forms of skin-grafting, the process has been extended successively to fascia, tendon, bone, and even to such a delicate structure as the cornea. The possibility of transferring these tissues successfully has become of immense value in the plastic treatment of numerous bodily lesions and defects, in the repair of fractures and bone-diseases associated with loss of substance, in the mechanical remedy of certain forms of paralysis, and occasionally in the mobilization of ankylosed joints.

The transplantation of organs, as more recently developed by Carrel and various of the German surgeons, has opened new fields of surgical therapeutic opportunity, which have thus far been but partly explored. The transference of more complex structures, such as kidneys and joints, has hardly advanced beyond the experimental stage; but the possibility of transplanting intestinal segments in the plastic surgery of the vagina and urethra has been satisfactorily demonstrated. The enormous technical difficulty of such procedures will probably always restrict their performance to the hands of specialized experts. There is, however, another important group of organs, the glands of internal secretion, whose transplantation offers important prospect of benefit beyond that derived from the oral or subcutaneous administration of their extracts.

The knowledge of the endocrinous glands is again one of the valuable advances of modern medical science. Beginning with the study of thyroid secretion in the treatment of exophthalmic goitre, it has been extended to the adrenals, the parathyroids, the genital glands, and more recently, by the brilliant surgical researches of Cushing and others, to the pituitary. The complex functions and interrelations of this group of glands form one of the latest and most fascinating chapters of physiology, and the still undetermined possibilities of their surgical and medical use hold prospect of control and cure of many serious functional aberrations and incapacities.

Among the transplantable organic tissues, one of the most commonly and easily available is the ovary. The problem of preserving ovarian tissue, both for its internal secretion and for ovulation and menstruation, is one that frequently confronts the gynecologist. Dr. Storer, in his leading article in another column of this issue of the JOURNAL, reviews the history, technic and indications of ovarian transplantation, and reports his personal work on the subject. It is a valuable contribution to recent surgical progress.

Hitherto the majority of tissue and organ transplantation has been homoplastic, within the body of the host. Heteroplastic transplants, from one individual to another, or from animal to man, thus far have but a limited field of application, being restricted to the lower, less completely differentiated tissues, like skin, bone, and tendon. This is a field, however, which contains almost limitless possibilities of research. A completed knowledge of the physiology of the glands of internal secretion, and a full development of the successful technic of both homoplastic and heteroplastic transplantation, would place important therapeutic power within the reach of medical and surgical application.

HEALTH CONDITIONS IN BOSTON IN 1914.

A PRELIMINARY report issued on January 4, by the Boston Board of Health, indicates that the death-rate in 1914 was only 15.8, the lowest in the history of the city. This gratifying result is evidence, not only of increasingly good public health conditions, but of the development of an intelligent popular interest in the limitation and eradication of disease.

The actual number of deaths in 1914, with the population numbering 766,136, was 11,808. In 1913, with the population at 750,768, the number of deaths was 11,839. Of the 11,808 deaths in 1914, 2003 were infants. In 1913 the number of infants who died was 2111. The number of

deaths from measles, scarlet fever, whooping cough and tuberculosis was less in 1914 than in 1913, the greatest decrease being with whooping cough, from which there were 97 deaths in 1913, and only 46 in 1914. Deaths from measles were reduced from 77 in 1913 to 63 in 1914; deaths from scarlet fever were reduced from 77 to 65, and deaths from pulmonary tuberculosis from 1064 to 1041. The number of deaths from typhoid fever increased from 60 to 66, and deaths from diphtheria increased from 156 to 168.

The infant mortality rate in 1914, under one year, was only 100 per thousand births, as compared with 110 in 1913 and 151 in 1903. Of the individual causes of death, tuberculosis still leads in the number of fatalities. The following table shows the comparative deaths in certain important groups during the years 1913 and 1914.

DISEASE.	1913	1914
Deaths from typhoid fever	60	66
Deaths from measles	77	63
Deaths from scarlet fever	77	65
Deaths from whooping cough	97	46
Deaths from diphtheria	156	168
Deaths from pulmonary tuberculosis	1064	1041
Deaths from cancer	841	875
Deaths from external causes (violence)	873	829
Deaths of children under 1 year	2111	2003

In the same connection there is considerable interest in a report by Dr. Thomas F. Harrington, Director of School Hygiene, on the health conditions of pupils in the Boston public schools in 1914, showing a notable decrease in defectives during the past eight years.

"The total number of pupils now in school whose vision is not normal is 11,039, or 12.08% of the total number of pupils tested, which was 91,326. The percentage of defectives eight years ago was 31.5.

The number of pupils defective in hearing this year is 2538, or 2.8% of the total of 93,024 examined. This represents a substantial reduction of defective hearing from 8.13% eight years ago.

During the past eight years 23,655 cases of defective vision and 4806 cases of defective hearing were corrected. In the same time over 12,000 cases of obstructive adenoids and tonsils were operated on.

The statement that defective vision increases markedly as the children progress in their studies is not borne out by statistics. The percentage of defectives in the elementary and high school grades is nearly uniform, as the percentage in the elementary schools is from 10.74 to 14.70 and in the high schools 10.52 to 11.34."

AN ABSURD MEDICAL BILL.

ON Wednesday of last week, January 6, the General Court of Massachusetts convened for its annual session of 1915. Among many important pieces of medical legislation to be brought before that body during this season, is one piece of meddlesome legislation whose obvious absurdity should lead to its immediate defeat. This is a bill to regulate conditions of surgical practice in this Commonwealth. The provisions of the bill are as follows:—

"Section I. No surgeon, physician, dentist, nor other person, performing, directing or assisting at a surgical or dental operation upon a human, either on public or private property in this State, shall wear the hirsute appendages commonly known as moustache and beard.

Sect. 2. The Boards of Registration in Medicine, and of Registration in Dentistry, acting jointly, shall have full authority to prosecute violations of this act.

"Sect. 3. Violations of this act shall be punished by a fine not exceeding $50.

"Sect. 4. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

"Sect. 5. This act shall take effect upon its passage."

The manifest absurdity of this bill requires no further comment. It might, with equal reason, require of all surgeons that the head should be shaved. Undoubtedly this proposed measure will be promptly defeated.

MEDICAL NOTES.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—At the closing session of the American Association for the Advancement of Science, at Philadelphia, on Jan. 1, Professor W. W. Campbell of the University of California, was elected president for the ensuing year.

Other officers chosen include L. C. Howard, Washington, D. C., permanent secretary; Henry Skinner, Philadelphia, general secretary; Robert M. Ogden, University of Kansas, associate secretary for the South; Albert L. Barrow, University of California, secretary of the Pacific division; and R. S. Woodward, Carnegie Institution, Washington, treasurer.

Next year's annual convention will be at Columbus, O., during the week beginning Dec. 27. A midsummer meeting will take place at San Francisco, Aug. 2 to 7.

EUROPEAN WAR FUNDS.—On Jan. 8 the total of the New York Belgian relief fund amounted

to $783,954.00; the New York Jewish relief fund to $282,990.00; the American Ambulance Hospital fund to $265,006.00; and the American Polish relief fund to $7,675.81.

On Jan. 9 the total of the New England Belgian relief fund amounted to $168,512.52; the Massachusetts Red Cross fund to $95,946.20; the Boston branch of the American Ambulance Hospital fund to $50,230.45; the Boston Jewish relief fund to $24,681.10; the New England British relief fund to $16,418.52; the Boston Polish relief fund to $10,917.16; and the Boston Russian relief fund to $10,568.00.

STUDIES ON LEPROSY.—In a recent bulletin (No. 66) of the United States Public Health Service, Dr. George W. McCoy presents the 25th, 26th, and 27th of a series of studies on leprosy, being a continuation of the important work in this subject begun in 1908, by the United States Public Health Service. The present communication deals with studies in immunity in leprosy, with the cultivation of acid-fast bacilli from lepers by the use of symbiotic organisms, and with a statistic study of leprosy in Hawaii. The author finds that the serum of but few lepers agglutinates any acid-fast cultures, and serologic methods are of chief value in making group classifications of such bacilli. Immunization of rabbits with leprous material does not yield agglutinins for acid-fast cultures. The cultivation of these acid-fast organisms is best made by the use of symbiants.

THE SANITATION OF IQUITOS.—In a recently published reprint (No. 233), Dr. G. M. Converse of the United States Public Health Service, describes a recent sanitary campaign for the improvement of public health in Iquitos, a Peruvian port twenty-three hundred miles from the mouth of the Amazon River and only four degrees south of the Equator. Its average temperature is about 86° F. and it has a high humidity and rainfall. The population consists of about twelve thousand inhabitants, mostly Indians. There is no public water supply, no sewerage system and no local hospital. During the ten years from 1903 to 1913, this town had an average mortality of 40.5 per thousand, increasing to an average of 46.5 from 1910 to 1913, and 49.5 in 1912. The principal work undertaken by the author was the eradication of yellow fever and intestinal parasites, the chief cause of death and disease among the natives. This was accomplished by the regular sanitary methods, and in 1913 the death-rate fell to 28.8 per thousand and in the first half of 1914 to 21. This report presents a striking example of what may be accomplished in the improvement of local sanitary conditions by the application of simple hygienic methods rigidly enforced.

NEW YEAR BEGINS WITH LOW DEATH-RATE IN NEW YORK.—The new year has opened with a slightly lower death-rate than that of the first week of 1914, the rate for the two weeks under comparison being 14.30 and 14.43, respectively, a decrease of .13 of a point, which is equivalent to a relative decrease of 14 deaths.

The most noteworthy feature of mortality for the week just passed was the considerable increase in the number of deaths charged to pneumonia, there having been 277 deaths reported during the week, as against 225 during the first week of 1914. The increase in the deaths from broncho-pneumonia was distributed among the children at the early ages, while that from lobar pneumonia was distributed among the age group between five and sixty-five years.

The total number of the deaths from infectious and contagious diseases, measles, scarlet fever, diphtheria and croup, whooping cough, typhoid fever, cerebrospinal meningitis and diarrheal diseases was considerably below that of last year.

HARVEY LECTURE.—The sixth lecture, in the current course before the Harvey Society, will be given at the New York Academy of Medicine on Saturday evening of this week, Jan. 16, by Dr. Edward R. Baldwin, of the Adirondack Cottage Sanatorium, on "Immunity in Tuberculosis, with Special Reference to Racial and Clinical Manifestations."

THE CORONER SYSTEM IN NEW YORK.—On Jan. 4, Leonard M. Wallstein, New York commissioner of accounts, filed with Mayor Mitchel a report recommending the abolition of the present coroner system in New York City and the substitution therefor of the system of medical examiners as it exists in Massachusetts.

By examination of nearly four hundred witnesses, the report says, it has been found that "the elective coroner in New York City represents a combination of power, obscurity and irresponsibility which has resulted in inefficiency and malfeasance in the administration of the office"; that of the sixty-five coroners who have held office since consolidation, not one was thoroughly qualified for the adequate performance of his duties; that the incompetent medical work of the coroner's physicians deprives the community of an absolutely necessary deterrent to crime; that because of this fact numerous homicides have undoubtedly failed of detection, and infanticide and skilful poisoning can be carried on almost with impunity so far as the coroner's office is concerned; that coroners' juries have been packed with friends of the defendants appearing before them; that coroners have abused their powers to compel the employment of favored undertakers, attempts have been made to extort money from insurance companies in return for findings in the interest of the companies, and many other forms of petty graft and abuses have been practised. The report urges that the jury system and the coroners' court be

eliminated, the responsibility for criminal investigations be given completely to the district attorney and the police, and the new medical board be composed of experienced pathologists, the chief of whom should be appointed by the mayor as the result of a non-assembled competitive examination.

BOSTON AND NEW ENGLAND.

MEASLES IN STURBRIDGE.—Report from Sturbridge, Mass., on Dec. 31, states that there were then 30 cases of measles in that town, 13 being in one family.

WORK OF MILK AND BABY HYGIENE ASSOCIATION.—The recently issued annual statement of the Boston Milk and Baby Hygiene Association shows that during the year 1914, a total of 4108 babies under one year of age were cared for by the institution.

OPENING OF THE CARTER MEMORIAL HOSPITAL.—On Jan. 1, 1915, the new Carter Memorial Hospital, at Lancaster, Mass., was formally opened, and its keys presented to the trustees of the Clinton Hospital Association. Dr. Walter P. Bowers, of Clinton, presided, and addresses were made by Governor Walsh and others. On Jan. 2 the hospital was opened to public inspection. It is a local institution for the treatment of tuberculosis.

MENINGITIS, PELLAGRA, AND POLIOMYELITIS IN MASSACHUSETTS.—During the month of November, 1914, 11 cases of cerebrospinal meningitis were reported in Massachusetts, 6 being in Boston. During the same month, 9 cases of poliomyelitis were reported in Massachusetts, and 16 in Virginia; 3 cases of pellagra in Massachusetts and 28 in Virginia.

CONVICTION OF A VERMONT DRUGGIST.—In the issue of the JOURNAL for Dec. 3, 1914, we noted the death of 14 persons in Vermont from poisoning by whiskey adulterated with methyl alcohol. The druggist who sold this whiskey has been tried, convicted of manslaughter, and sentenced to 12 or 15 years' imprisonment.

NOTIFICATION OF DEFICIENCIES IN WATER SUPPLY.—The following circular letter was sent on Dec. 31, 1914, by the State Commissioner of Health of Massachusetts, to the local health boards of such towns in this Commonwealth as are dependent on sources of water supply likely to become depleted during the present drought:

"At the present time, on account of the deficient rainfall of the past few months, many wells that are used for domestic water supply are dry and small reservoirs have become considerably depleted. While these conditions are not extraordinary, they are more serious than have occurred at this time of year for three or four years and, while public water supplies, except those drawn from streams having little storage, are as yet not greatly affected as a rule by these conditions, the private supplies derived from wells, springs, etc., in villages and on farms have in many cases become exhausted and water is being drawn from sources not commonly used.

"In view of these conditions, it is advisable to warn the public, especially that part of it that is supplied with water from private sources, of the dangers of typhoid fever and other diarrheal diseases to which they may be exposed by the taking of water from unusual sources. They should be warned to look carefully to the possible impurity of such sources and to protect themselves against danger of infection, if the source used appears in any way doubtful, by boiling the water before using it for drinking. Especial care should also be taken by physicians to report promptly all suspected cases of typhoid fever and dysentery (winter cholera) to the proper officers.

"In cases where a citizen of a town is in doubt as to the safety of any temporary water supply which he may propose to use, he should apply to the local board of health of the town for advice. If it should happen that any city, town, water or aqueduct company finds itself short of water, or in danger of a shortage, it should apply at once to the State Department of Health for advice as to an additional supply, unless such action has already been taken.

A. J. MCLAUGHLIN,
Commissioner of Health.

ADMISSION REQUIREMENTS TO HARVARD MEDICAL SCHOOL.—New requirements for admission to the Harvard Medical School, proposed by the faculty of medicine, have been accepted by the college corporation. Hereafter, candidates may be admitted to the medical school on the following terms:—

"Graduates in arts or science of approved colleges or scientific schools who can furnish evidence (*a*) that they have such a knowledge of physics, of biology, of general chemistry and of organic chemistry as may be obtained from one year's course in each of these subjects as given in approved colleges and scientific schools; (*b*) that they have a reading knowledge of French or German.

"Students who have completed two years of work in a college or scientific school of high rank, provided they present certificates: (1) that they have stood in the upper third of their class; (2) that one year's course has been taken in physics, in biology, and in general chemistry and in organic chemistry, and (3) that they have a reading knowledge of German or French."

AN IMPORTANT MEDICAL BEQUEST.—The will of the late Dr. William H. Baker, of Waltham,

Mass., which was filed on Jan. 2 in the probate court at East Cambridge, Mass., contains a bequest of $50,000 to the Harvard Medical School to endow a professorship of gynecology, on condition that the chair shall be separate from those of surgery and obstetrics. In case the gift should not be accepted on these terms, the fund reverts to the Free Hospital for Women, Brookline, Mass.

HOSPITAL BEQUESTS.—The will of the late Dr. Edward R. Cogswell, of Cambridge, Mass., who died on Dec. 22, 1914, was filed on Jan. 1, 1915, in the probate court at East Cambridge, Mass. It contains a bequest of $2000 to the Cambridge Hospital.

The will of the late Rebecca H. Hobbs, of Waltham, Mass., which was filed in the probate court at East Cambridge, Mass., on Dec. 31, 1914, contains bequests of $5000 to the Waltham Hospital, $1000 each to the Waltham Training School for Nurses, and the Waltham Baby Hospital, and $500 to the Waltham District Nurses' Association.

CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending Jan. 5, 1915: Diphtheria, 49, of which 4 were non-residents; scarlatina, 52, of which 7 were non-residents; typhoid fever, 6; measles, 94, of which 1 was non-resident; tuberculosis, 36, of which 2 were non-residents. The death-rate of the reported deaths for the week was 19.06.

Current Literature

MEDICAL RECORD.

DECEMBER 26, 1914.

1. MCWILLIAMS, C. A. *Reflex Disturbances Due to Chronic Appendicitis.*
2. *PACKARD, E. N., JR. *Therapy of Fever in Pulmonary Tuberculosis.*
3. BUERGER, L., AND OPPENHEIM, A. *Gangrene Without Organic Vascular Disease.*
4. CROFTON, A. C. *Intestinal Toxemia and Diabetes.*
5. BERKOWITZ, S. *Ehrlich's Aldehyde Reaction for Urobilin.*
6. WARE, M. W. *A New Vesical Calculus Evacuator.*

2. Packard considers the following the important points in the treatment of phthisical fever: Absolute rest in bed, preferably out-of-doors, ample but not forced feeding, hydrotherapy, the judicious use of antipyretics, autogenous vaccines if there is copious, purulent expectoration, artificial pneumothorax in selected cases, and tuberculin cautiously after other methods fail. [L. D. C.]

NEW YORK MEDICAL JOURNAL.

DECEMBER 26, 1914.

1. BURR, C. W. *Hysterical Astasia-Abasia Occurring in Acute Multiple Neuritis.*
2. LEE, E. W. *Physical Defects a Factor in the Cause of Crime.*
3. BRANTH, J. H. *Physical Defects and Crime.*
4. MEDING, C. B. *Intracapsular Extraction.*
5. TONSEY, S. *Radium and Roentgen Therapy Facilitated by Double Coated Adhesive Plaster.*
6. FRANCE, J. J. *Gonococcus Infection in Women.*
7. O'DAY, J. C. *Syphilis in Simulating Malignant Neoplasms.*
8. ERDMAN, S. *Wounds of Arteries.*
9. PRICE, G. M. *Industrial Sanitary Standards.*
10. WEINSTEIN, J. *Tuberculosis of the Tongue.*
11. HENDERSON, L. J. *The Excretion of Acid in Health and Disease.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

DECEMBER 26, 1914.

1. ELY, L. W. *Orthopedic Surgery: Its Scope and Its Future.*
2. *CHUTE, A. L. *A Plea for a More Extensive Operation in Cancer of the Bladder.*
3. *SQUIER, J. B. *Subtotal Cystectomy.*
4. *SKILLERN, P. G. *Certain Minute Cysts of the Metacarpal Bones Following Trauma, and Their Clinical Recognition.*
5. BARNETT, C. E. *Suprapubic Prostatectomy.*
6. *BARNEY, J. D. *The Ultimate Results of Genital Tuberculosis in the Male.*
7. *NELSON, K., AND HARRIS, E. F. *Observations of the Results of Seven Months' Experience in the Treatment of Syphilis.*
8. WOOLLEY, P. G. *Factors Governing Vascular Dilatation and Slowing of the Blood Stream in Inflammation.*
9. GORDON, A. *An Unusual Form of Birth Palsy.*
10. *RITTER, J. *Early Recognition of Pulmonary Tuberculosis by Study of Lymphocytic Picture and Albumin Contents of Sputum.*
11. KING, E. F. *Myiasis of the Urinary Passages.*
12. BALDWIN, J. F. *Adrenal Precocity. Precocious Development of the External Genitals Due to Hypernephroma of the Adrenal Cortex.*
13. WARFIELD, L. M. *A Simplified Method for the Intrameningeal Injection of Neosalvarsan in Syphilis of the Nervous System.*
14. DAVIS, C. M. *A Case of Ulcerative Pneumococcus Enteritis with Peritonitis Following Lobar Pneumonia.*
15. HUBER, G. N., AND FLACK, F. L. *An Unusual Case of Screw Worms in the Nose and Nasal Accessory Sinuses.*
16. HILDRETH, E. R., AND SUTTON, A. C., *Oidomycosis in Porto Rico.*

2. Chute does not go into the technic of radical operation, but rather devotes his paper to the reasons for such procedure, speaking especially for the more thorough removal of diseased lymphatics.

3. Squier in his paper devotes himself almost entirely to the description of the technic of subtotal cystectomy.

4. Skillern has an extremely interesting article on minute bone cysts of the metacarpal bones, which is worth reading.

6. Barney's paper gives figures of much interest and importance. He finds that tuberculosis of the genital tract is accompanied by old or active lesions in other organs in more than 55% of cases, most of them being in the lung. The genital tract is usually first attacked in cases of genito-urinary tuberculosis.

Over 27% of 113 patients traced died of some form of tuberculosis. Miliary, renal and lung tuberculosis, in order, are the prevailing types of the disease. Barney believes that until ten years have elapsed after operation, no patient can be said to be cured of this form of tuberculosis. In genital tuberculosis, neither the disease nor the operation for its relief seems to impair masculinity. Experience shows that although the prostate and seminal vesicles are involved in most cases of epididymal tuberculosis, this condition will improve or heal after removal of the epididymis. Radical surgical treatment of these organs is unnecessary and unwise.

7. These authors make the emphatic statement that, as compared with salvarsan, neosalvarsan is a comparatively inert drug and its use should be abandoned in favor of the former if we wish to do our patients justice. They state that four injections of salvarsan combined with intensive mercurial treatment give nearly twice as many negative serum reactions as do five injections of neosalvarsan with mercury. The ratio is 64 to 33.3%.

10. Ritter believes that a sputum lymphocytosis showing under the microscope 50% or more of the small mononuclear leucocytes with a moderate amount of albumen by chemical test speaks very strongly for the presence of a pulmonary tuberculosis. In pre-incipient or incipient cases of pulmonary tuberculosis a lymphocytic sputum is usually present, with a greater or lesser albumen content; in this the tubercle bacillus may be entirely absent or only occasionally found. The presence of the mononuclear lymphocyte in the sputum in preponderant amounts and a positive albumin test is simply the forerunner or near the beginning of positive findings, for the tubercle bacillus, if not already present in the sputum, will soon be found. [E. H. R.]

ARCHIVES OF INTERNAL MEDICINE.

NOVEMBER, 1914.

1. HEWLETT, A. W. *The Pulse Flow in the Brachial Artery. Reflections of the Primary Wave in Dicrotic and Monocrotic Pulse-Forms.*
2. TILESTON, W., AND COMFORT, C. W., JR. *The Total Non-Protein Nitrogen and the Urea of the Blood in Health and in Disease, as Estimated by Folin's Methods.*
3. *CAPPS, J. A., AND DAVIS, D. J. *An Epidemic of Streptococcus Sore Throat in Jacksonville, Ill., Which Was Traced to the Milk of Cows Affected with Streptococcus Mastitis.*
4. *GAY, F. P., AND CLAYPOLE, E. J. *An Experimental Study of Methods of Prophylactic Immunization Against Typhoid Fever.*
5. GAY, F. P., AND CLAYPOLE, E. J. *Specific Hyperleucocytosis. A Study in Typhoid Immunization.*
6. FITZ, R. *A Case of Diabetes Insipidus.*
7. *HAMBURGER, W. W., AND FRIEDMAN, J. C. *Contributions to the Experimental Pathology of the Stomach. I. Experimental Pyloric Stenosis.*
8. *LEVY, L. H., AND STRAUSS, A. *A Clinical and Bacteriological Study of Hexamethylenamin as a Urinary Antiseptic.*
9. *WEBB, G. B., GILBERT, G. B., AND HAVENS, L. C. *Blood Platelets and Tuberculosis.*
10. HAMMAN, L., AND BAETJER, F. H. *Pulmonary Physical Signs and Roentgen Ray Findings in Healthy Adults.*

3. Capps and Davis report a study of an epidemic of 348 cases of streptococcus sore throat which occurred in Jacksonville, Ill., in the winter of 1913-14. The epidemic was traced to the milk of cows affected with streptococcus mastitis. The streptococci in the milk were found to have hemolytic properties. They did not multiply appreciably at room temperatures because of the inhibiting influence of other milk bacteria. They were soon killed by the acidity of sour milk or buttermilk and died out in ordinary butter in a few days. They lived in ice cream for at least three weeks without appreciable loss of numbers or virulence. There was good reason to believe that in this epidemic ice cream played an important rôle as a carrier.

4. Gay and Claypole advocate the testing of typhoid immunity by means of an artificial typhoid-carrier state in the rabbit, and describe their technic. Their experiments show that untreated bacteria, killed and precipitated by alcohol, dried, ground and weighed, do not protect so well as typhoid bacilli that have been sensitized by an immune serum and subsequently treated in the same manner. The sediment of unsensitized bacterial bodies freed from the supernatant, endotoxic fluid contains the immunizing principle almost in its entirety. Alcohol-killed, sensitized cultures protect almost as well as living sensitized cultures, and the sediment of the former better than the living cultures. These sensitized cultures produce a more durable type of immunity and cause less reaction, both local and general. For prophylactic immunization the writers recommend three injections at two-day intervals of such a culture, perfectly polyvalent, in the dose of 3/32 mg. of the original dried culture, which corresponds approximately to 750 million living typhoid bacilli. They consider the skin test with the typhoidin solution of far more value than the agglutination reaction with immunized serum as an index of the degree of protection.

7. Hamburger and Friedman conclude from experiments on dogs that pyloric obstruction with resulting motor insufficiency and continuous secretion is probably the most important factor in the production of chronic experimental ulcer. It is probable that in man primary partial pyloric stenosis (from whatever cause) with secondary motor insufficiency and continuous secretion is largely responsible for the progression and delayed healing of chronic ulcer.

8. Levy and Strauss report a study of hexamethylenamin as a urinary antiseptic. They find that in neutral solutions in concentrations up to 1:10 it is neither inhibitory nor bactericidal. Given in doses of 7½ grains three times a day, it is broken down into formaldehyde in all acid urines. Formaldehyde is formed in the bladder in all cases except in those in which the acidity of the urine is higher than normal. In these cases some formaldehyde is formed in the kidneys. With a dose of 7 grains of hexamethylenamin three times a day formaldehyde is never present in concentrations greater than 1:5000. The only organism which is destroyed or whose growth is inhibited by this concentration is the typhoid bacillus. For the destruction or inhibition of other organisms a high acidity is necessary and such high acidity in combination with the formaldehyde may injure the kidney tissue. Hexamethylenamin is undeniably efficacious in typhoid fever for the prevention of pyelitis and cystitis.

9. Webb, Gilbert and Havens studied the blood-platelets in tuberculosis in man and in guinea-pigs. They found the platelets consistently increased in number. A change in altitude from sea-level to 6000 feet increased the number of platelets 12%. Their experiments indicate that the platelets either contain or supply opsonin, and that when added to a lethal dose of tubercle bacilli they either prevent infection or modify its course. The addition of serum to a mixture of blood platelets and tubercle bacilli appears to interfere with this modification. [L. D. C.]

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

No. 38. SEPTEMBER 17, 1914.

1. v. HANSEMANN, D. *The Cancer Problem.*
2. *RISEL. *The Diagnosis of Smallpox.*
3. *GLASER, F. *Salvarsan in Scarlet Fever.*
4. LETHAUS. *Sciatica Treated by Nerve Injections.*
5. KORB, P. *Iod-prothacmin.*

2. Risel states that small-pox, typically, has an incubation period of about twelve days. This is followed by a pro-dromal period of three days, characterized by a sudden onset of fever, malaise and vomiting. These symptoms subside with the appearance of the smallpox eruption. The rash is very diffuse and is seen over the entire body but may be most abundant on the exposed surfaces. It is first papular, but rapidly becomes vesicular and pustular. It tends to involve the deeper layers of the skin. The blood shows a leucocytosis with marked increase in the large mononuclear cells. In the most severe and acutely fatal cases of smallpox, the eruption may have a hemorrhagic character. The true rash may be preceded by a diffuse and transitory erythema or purpura.

Chicken-pox is the disease most likely to be confused with smallpox. In this the skin lesions are more superficial, and all stages from papules to pustules are seen at the same time. The rash is less thickly distributed on the extremities and more thickly over the abdomen. The characteristic leucocytosis is absent.

Finally, animal inoculation may be used for differential diagnosis. Subcutaneous injections into rabbits of serum from the chickenpox vesicle will produce no reaction, while the serum from a smallpox vesicle will produce characteristic lesions. This procedure, however, takes a few days, and thus is not particularly valuable.

3. Glaser has treated scarlet-fever with salvarsan because a positive Wassermann reaction has been found in various cases at the height of the disease, on account of the beneficial action of the drug in certain ulcerative forms of tonsillitis, and because of its good effect on many protozoan diseases, of which scarlet fever may be one.

Glaser reports a series of 42 cases, including severe cases, and mild cases. His results show that salvarsan had no effect in the most severe cases. In others, the fever and mental confusion were often relieved after the drug was injected. The various complications of scarlet fever were not influenced by the treatment. A diphtheroid membrane, if present, seemed to clear up more readily. Chills, vomiting, or diarrhea appeared in over one-half the cases following injection. [R. F.]

No. 39, SEPTEMBER 24, 1914.

1. *BONHOEFFER, K. *Psychiatry in War.*
2. AXENFELD, T. *The Surgery of the Eye in Warfare.*
3. GROBER. *Cremation in Warfare.*
4. *BOETERS, O. *The Vaccine Treatment of Gonorrhea and Gonorrheal Complications.*
5. SCHALL, M. *Recent Technical Improvements in Medical and Sanitary Instruments.*
6. SCHUSTER. *The Organization of a Proper Public Health Service During the War.*
7. HAMLOCK. *The Early Diagnosis and Treatment of Epidemics During War. (Review.)*
8. SCHWALBE, J. *A Letter from Ernst v. Bergmann Written During the Russian War in 1877.*
9. DREYER, L. *First Impressions of War Surgery.*
10. OBENDÖRFFER, E. *Letters from the Battle Front.*

1. Bonhoeffer feels that under the psychical and physical stress of war, individuals with a predisposition to mental instability become diseased more readily than under normal conditions. The symptoms of such disturbance may take the form of phobias or hallucinations so that a soldier becomes dangerous to himself and his companions, and tends to render military discipline difficult to enforce. Or the symptoms may occur as paralyses or convulsions, developing during a disease. Dementia precox and dementia paralytica, too, seem to develop more readily among fighting soldiers. Therefore Bonhoeffer believes that men who are subject to neuroses should be considered unfit for military duties. Those soldiers who develop signs of mental disturbance should be sent from the firing line at once, or if this is impossible should be quieted with hypnotics.

4. Boeters has treated a series of cases of gonorrhea and its complications with intravenous or intramuscular injections of a proprietary vaccine sold under the name of Arthigonin. He believes that vaccine therapy is of great value in local gonorrheal infections (prostatitis, epididymitis, parametritis, etc.), and also in metastatic lesions. Arthigonin is of value in diagnosis on account of the general reaction obtained in specific cases following its injection. [R. F.]

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

NOVEMBER 3, 1914.

1. SCHRIDDE. *Congenital Status Lymphaticus.*
2. UNNA. *The Removal of Hair from the Face.*
3. SCHOTTEN. *Fatal Poisoning by Male Fern in a Case of Addison's Disease Clinically Latent.*
4. GERLACH. *The Comparative Dose of Roentgen and Gamma Rays.*
5. KOHLRAUSCH. *The Physical Basis for Radium Therapy.*
6. WOLLENBERG. *Nervous Diseases Among Those in the War.*
7. MÜHLENS. *Peliosis and Relapsing Fever.*
8. WALTHER. *Hydrogen Peroxide and Its Preparation in the Treatment of Wounds.*
9. HEDDÄNS. *The Serum Treatment of Tetanus.*
10. VERTH. *Directions for the First Treatment of the Wounded in a Sea Fight.*
11. LOOSE. *Roentgen Examinations in the War.*
12. SCHANZ. *Spectacles for Gunners.*
13. SCHLANGE. *Surgical Observations and Experiences in the Field.*

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

No. 45. Nov. 10, 1914.

1. *HOLZKNECHT. *Localization of Foreign Bodies.*
2. NIEDEN. *Technic of the Abderhalden Dialysis Reaction.*
3. *PÖHLMAN. *A Fresh Infection of Syphilis in Tabes Dorsalis.*
4. DIETERICH. *What Varnishes Are Suitable for Wounds.*
5. SCHREDDE. *The Management of a Base Hospital.*
6. KOHLRAUSCH. *The Physical Basis for Radium Therapy.*
7. *FRAENKEL. *Gas Gangrene.*
8. FRANKE. *A Case of Gas Phlegmon.*
9. HOTZ. *Wounds of the Central Nervous System.*
10. GULEKE. *The Treatment of Gunshot Wounds of the Spinal Cord.*
11. KUHN. *An Apparatus for Local Anesthesia.*
12. SIMON. *The Danger of Anaphylaxis in the Serum Treatment of Tetanus.*
13. *EURICKE. *The Treatment of Tetanus with Magnesium Sulphate.*
14. ANGERER. *Serum and Symptomatic Treatment of Tetanus.*
15. BANDORF. *Contribution to the Treatment of Infected Wounds and the Rapid Healing of Large Defects.*
16. PITZNER. *Concerning Wounds of the Bladder.*
17. NOBILING. *Concerning Wounds of the Bladder.*
18. MÜHLENS. *Typhus and Relapsing Fever.*

1. Several illustrations with good descriptions are given showing various technics which are of use in localizing foreign bodies in the skull and trunk and limbs.

3. Pöhlman gives in detail the case of a man infected with syphilis 36 years previously and having definite signs and symptoms of tabes dorsalis who

presented himself for treatment with a primary lesion typical in every diagnostic point except that spirochetae were not looked for. The incubation period, course of the lesion and reaction to mercury and salvarsan were characteristic. Pöhlman believes it to be a fresh infection on top of an old infection.

7. Gas gangrene: If there is a pure infection of the gas bacillus no suppuration takes place and the only sure way of differentiating from malignant edema is by animal inoculation which takes from 12 to 18 hours. Staining is also fairly accurate as the differences between the gas bacillus, anthrax and the germ of malignant edema are well marked. The treatment consists first in getting oxygen into the tissues by means of free incisions, oxygen and hydrogen peroxide. Amputation may be best. The patient's strength must be kept up.

13. Euricke is not favorably impressed with the use of magnesium sulphate: He used it on eight cases with poor success as the sickest cases were little if any influenced. He gave an intradural injection of 10 c.c. of 10% sol. and 8 c.c. three days later. He insists that it can never take the place of the serum.

[E. L. Y., Jr.]

BULLETTINO DELLE SCIENZE MEDICHE.

SEPTEMBER, 1914.

1. VANNINI, G. *The New Diets in the General Hospital of Bologna.*
2. *BONOLA, F. *Contribution to the Study of the Grey Commissure of the Thalamencephalon.*
3. CAVINA, G. *An Interesting Case of Cardioptosis.*

2. As a result of his anatomic investigations, Bonola concludes that the grey commissure of the thalamencephalon in man is the rudiment of a commissural nucleus analogous to the nucleus of the median line in the lower animals. In phylogenesis this nucleus has become involuted until it has reached the low development in the human species, and in ontogenesis also it has undergone important involutionary modifications.

[R. M. G.]

Miscellany.

THE TRANSFER OF THE QUARANTINE STATION.*

MODERN maritime quarantine is not a matter of solely local character and importance, on account of the fact that large numbers of persons are in transit through the ports of entry to various places throughout the whole country. Only a relatively small proportion of immigrants landing here remain in Boston. It is as much a matter of national concern as the immigration service, or the coast defenses. The expense of an adequate quarantine service should be borne by the National Government and not by the City.

Uniformity of quarantine regulations and of quarantine procedure throughout the ports of the country are desirable, not only for the protection of the health of the people, but in the interest of commerce.

It is to the advantage of the shipping interests to have only one set of regulations to meet in the various ports of the country—the minimum regulations prescribed by national law. Local boards must live up to these requirements—but they may impose additional restrictions. Where the local and national services both exist at the same port, there is danger of conflict and confusion, and of consequent delay.

If the quarantine is under federal administration, the quarantine work and the inspection of immigrants—administered by the same department of the public service—can be carried out as efficiently as at present, yet with a saving of time.

It is believed that in the long run federal control of quarantine will be fully as acceptable to the shipping interests as local control. This has been the experience where this system has been adopted.

The advantage is still greater in times of danger, when it is known that quarantinable diseases exist at ports from which vessels come, or in countries from which the immigrants come. Such information is reported promptly to the Public Health Service, either through its own agents or the representatives of the Department of State. If the Public Health Service has control of quarantine, the necessary measures for protection—which it would enforce any way—can be taken without delay, and can be arranged so as to cause the least possible delay and inconvenience to shipping that is compatible with safety. Under such conditions of danger, not only would the direct control of quarantine by the Federal Government be of advantage to the shipping interests, but it would better guard the health of the country. One organization, which can inspect abroad at the ports of departure, and again at the ports of entry, and which has authority to follow cases over the country, must be more efficient than if an independent body is interposed as the middle link of this chain.

Such conditions of danger we must face in the near future. This is the opinion of the medical profession, of the Public Health Service, and of all who have given serious thought to the situation. This is due to the European war.

Proper hygienic measures are impossible under the conditions in which the vast armies are fighting. The medical service is inadequate. Typhoid fever is prevalent. It is reliably reported that cases of cholera have occurred, and we know this disease became prevalent in the Balkan war. We recall the ravages of the plague in Manchuria during the Russo-Japanese war, and there is danger of the introduction of this disease through the Russian army. It will be a miracle if Europe is not involved in epidemics of these diseases before the war ends. And soon after we shall have hordes of immigrants from the infected regions.

Cholera and plague are the two diseases most to be dreaded—and expected through the war. The danger from smallpox coming from Southern Europe will be increased. The most efficient protection is none too good. Federal control is

* A statement prepared for presentation by Dr. H. D. Arnold before the Boston Common Council.

better than local control under these circumstances—in fact, it cannot be avoided.

If we grant, for the sake of argument, that the shipping interests might enjoy certain temporary advantages if the quarantine remains for a time longer under local control, they would lose much more in the apparently inevitable control by the Federal Government when we face these dangers in the near future. The change in the face of danger would mean serious delay in establishing an effective organization,—which could now be inaugurated without inconvenience.

Should cases of cholera or plague reach this port, and gain a foothold through ineffective preparation, the loss to the shipping interests would be enormous; and the expense to this community in eradicating these diseases would be immense. We have only to cite the recent experiences of New Orleans and San Francisco to enforce this lesson.

It is recognized that under the ordinary conditions of the past our local quarantine service has been efficient. It can hardly be claimed, however, that its officers have had as good experience as those available in the Public Health Service have had, in dealing with emergencies of the kind expected. Furthermore, the equipment of our quarantine station is entirely inadequate to deal properly with such emergencies.

It is folly to wait until the emergency is upon us, that is, if we have any regard for the commerce of this port. What commerce needs is a station not only to accommodate persons who are actually sick, but to provide properly for those who are well and must be detained for observation. A steamer should be able to discharge its passengers at once, be disinfected, and proceed with the least possible delay. Anything less than that means serious financial loss. Proper equipment of this station cannot begin too soon. It means a large expenditure—perhaps more than a hundred thousand dollars. The National Government is ready to take up this problem and undertake the proper development of this station. The citizens of Boston should not be called upon to bear this expense. Yet, unless we surrender the quarantine to federal control, we must undertake this work ourselves or we recklessly endanger our health and the business interests of the whole community.

Hitherto the shipping interests of this port have opposed the transfer of quarantine from local to federal control. The medical profession is unwilling to believe that they would urge their own interests at the expense of the welfare of this whole community; and it concludes that they cannot have had a realizing sense of the dangers that are so apparent to medical men in the near future.

I understand that the shipping interests have maintained that they would be subjected to restricted hours of service and to delay through appeals to Washington, which they would not be subjected to by local authorities.

I am assured by Surgeon-General Blue, of the Public Health Service, in answer to my direct questions, that:—

> Under Federal control of quarantine, the convenience of vessels as to time of examination will receive as much consideration as has been given by the local authorities, and that there will not be any stricter enforcement of regulations about hours of quarantine.
>
> The officer in charge of the Boston quarantine station, if it should be transferred, would have as absolute authority as possible; and the result, as far as concerns possible appeals, would be as fully as satisfactory as at present.
>
> This is the fixed policy of the Department, and is not dependent upon the individual in charge at any given time.

It has also been urged, I believe, that Boston should not make this change until it is also made in New York and Baltimore—rival ports. It is difficult to understand wherein the advantage of local control would lie, under the above guarantees, because it is expressly stated that the local service does not give any advantage by lax regulations, but only by a willingness to be accommodating. Even if it were true that some slight advantage to shipping interests lies in local control, when quarantine conditions remain as quiet as in the past, we must look ahead and consider the interests of this port. We are almost sure in the near future to be obliged to meet conditions of danger, in which the Federal Government will feel obliged to step in and exert its authority. With the inadequate provisions of our station, Boston, as a port, would suffer seriously in competition with these other ports.

For the above reasons we earnestly urge the City Council to authorize at the present time the transfer of the Boston quarantine station to the control of the Federal Government. In addition, it would seem probable that the shipping interests would receive more coöperation, if we thus meet the wishes of the National Government in its plans to protect the country against the importation of disease.

BRITISH RED CROSS HOSPITALS.

THE following details of the British Red Cross Hospitals at Calais and Dunkirk appeared in a recent issue of the *British Medical Journal:*

"It seems sometimes to be assumed in England that Calais and Dunkirk are British hospital bases. This is not the case; neither of them is occupied by the British forces, and our own Army Medical Service exercises no control over the medical arrangements existing therein. It occasionally happens that a British soldier gets included in a batch of French or Belgian wounded, and is taken to one of these towns for

treatment, and since these towns are not far removed from the British lines, unsanitary conditions in them, or rather, the existence of a considerable amount of epidemic disease, might complicate matters for our own army authorities. These towns have, however, a direct interest for the British public, owing to the fact that there are established within them an aggregate of about ten voluntary hospitals of British origin. For the most part they are working under the nominal control of the French or Belgian authorities, but at one time and another nearly all of them have received more or less extensive assistance from or through the British Red Cross Society itself, and still require it. Moreover, the ambulance work connected with those at Dunkirk is under the direct control of this Society.

"Of the two hospitals at Calais, one is concerned with the special arrangements proposed for the benefit of the Belgians suffering from typhoid fever. I am unable to describe it more precisely, for at the time of my last visit to Calais it was not complete The other hospital has been at work for some weeks. It owes its foundation, I understand, to a subscription got up in the Baltic Exchange in London, and is fortunate in having its nursing arrangements in the hands of a lady who, at the time of her appointment, had only recently returned from a long tour of corresponding work in the Balkans. This hospital, which ranks as a British Red Cross institution, shares the Sophie Berthelot School—a very large building—with a French Red Cross hospital, and can accommodate 80 or 90 Belgian wounded. A third extemporized institution in the town should also be mentioned, though except for the fact that most of its nurses have been supplied by the British Red Cross Society, I do not know that it can be regarded as in any wise British. This is the Jeanne d'Arc Hospital. It is under the control of Professor Depage, whose chief assistant is Dr. J. van de Velde, and is doing some very admirable surgical work.

"Of the seven hospitals in Dunkirk, much the largest is that known as the Duchess of Sutherland's Hospital. It has about 70 beds, and, under the very active control of Millicent Duchess of Sutherland herself, has been leading a useful if somewhat ambulatory existence almost since the beginning of the war. Another— and one of the youngest—is supported by the Quaker community, and is apparently very well organized. A third, which represents Edinburgh and the Border towns, has a very strong staff, but seems to be badly off for funds—a malady from which most of the hospitals in Dunkirk appear to suffer. As they are all quite small institutions, and with one exception are all housed in rather flimsy buildings of the summer residence order, it is possible that their common object would be better attained if a process of amalgamation were carried out. That object is the benefit of the French wounded, and its desirability is not in the least diminished by the fact that the principle on which the French medical authorities are working is that of evacuating to his own territorial area every wounded man who can possibly be moved. It might be well if the small committee which represents them with the French authorities besides bringing about one or more amalgamations, were strengthened by the inclusion of a larger French official element.

"The voluntary hospitals at British bases, such as Boulogne, Rouen, Paris, and Havre, are in a different position; they all work under the general authority of Sir Arthur Sloggett in his double capacity of Director-General of the Army Medical Service (overseas) and of Chief Commissioner of the British Red Cross Society and St. John Ambulance Association. As the operations of the British Red Cross Society in France now extend over so wide a field, and it is obvious that they will have to be continued for a very long period, it seems to be thought best that general administrative control should be placed in the hands of someone accustomed to the management of large commercial undertakings."

MASSACHUSETTS SOCIETY FOR MENTAL HYGIENE.

THE Massachusetts Society for Mental Hygiene, an organization recently formed in this state, has issued as its first publication a report stating its aims and purposes, the following quotations from which indicate the field in which the society purposes to work:—

"During the fiscal year ending Nov. 30, 1913, there were admitted to the various State hospitals 5007 patients. During the same period there were under care in the various hospitals 889 epileptics, 1444 inebriates, 18,971 insane (including those in private hospitals), making a grand total for feeble-minded, epileptic, inebriate and insane under care during the year, of 24,005. The hospitals spent during the year $4,264,919.71, which sum was more than one-quarter of the State's total expenses for the year.

"These figures, impressive in size though they are, obviously do not represent the whole number of persons affected, since, with few exceptions, each patient represents a family; nor the total cost, since to the above must be added the cost of rearing and educating those who become incapacitated through mental disease, the loss in earning capacity, etc.

"If all this were unavoidable, it would be well to say little. But much of it is avoidable. Many of the forms of mental disease are subject to control just as are tuberculosis, typhoid fever, or smallpox. Each of the three great causes producing the above toll is fundamentally preventable. The problems asso-

ciated with them are admittedly numerous and intricate, but the fact remains that they are the producers of the great majority of mental diseases, and unnecessarily so. The society aims to educate the people as to the real causes of mental disease and to instruct the general public in plain and tested measures for preventing disease.

"The society proposes to provide competent speakers to address groups in any part of the state, on the causes and prevention of mental disease; to distribute such pamphlets and leaflets as will interest and inform the general public; to familiarize the public with the methods used by the state in the care and treatment of mental cases; to maintain for general use a collection of literature on the subject of mental disease and its prevention, together with information in regard to progress made in other states and communities in the care and treatment of mental cases; to furnish information to physicians, social workers and others, as to the public facilities for the diagnosis, care and treatment of mental cases, and as to the laws, rules and practice in regard to availing themselves of these facilities; to study, so far as time and funds will permit, and to stimulate others to study, the different phases of the problem of mental hygiene, and to publish the results of such studies."

The officers of the society are: President, Judge Harvey H. Baker; vice-president, Dr. Walter E. Fernald; secretary, Dr. Charles E. Thompson; treasurer, John Koren; executive secretary, Dr. Frankwood E. Williams.

Among the directors are: Pres. Eliot, Dr. James J. Putnam, Dr. Alfred E. P. Rockwell, Worcester; Miss Edith N. Burleigh, Dr. Henry R. Stedman, Prof. Robert M. Yerkes, Dr. George T. Tuttle, Waverley; Rev. Michael J. Scanlan, Dr. Everett Flood, Monson; Bishop Lawrence, Frank L. Randall, Dr. Walter Channing, Supt. Dyer, Robert A. Woods, Dr. Ernest V. Scribner, Worcester; Edwin Mulready, Dr. E. E. Southard, Pres. Butterfield, Amherst; Dr. Irwin H. Neff, Norfolk; Dr. John A. Houston, Northampton; Dr. Herbert B. Howard, W. Murray Crane, Dalton; and David Snedden.

THE FRENCH BIRTH-RATE.

THE following data about the diminishing French birth-rate were published in the issue of the *Lancet* for Dec. 12, 1914:—

"The diminishing birth-rate, disquieting as it always is, is more so at the present time, when it has so important a bearing on events. The births fell from 750,651 living children in 1912 to 745,539 in 1913. So low a figure had never been recorded, with the exception of 1911, when it was regarded as deplorable. To estimate the lamentable and continued shrinkage of the French birth-rate it suffices to recall that the annual mean of living births was 945,000 during the period 1872 to 1875, that since 1907 the number of births has fallen below 800,000, and since 1911 below 750,000. That is to say, that in less than 40 years the births in France have diminished by 200,000 a year. The proportion of living children notified to 10,000 inhabitants was 188 in 1913, as against 190 in 1912, 187 in 1911, 196 in 1910, and 205 in 1906. The shrinkage increases year by year. It is true that in all the great countries of Europe the birth-rate is decreasing, but in a much less degree than in France, and, moreover, the annual excess of births over deaths is proportionately from six to ten times greater than in France. Thus, for 1912 the excess of births over deaths per 10,000 inhabitants was in France only 15. In the same year it was in the Low Countries 158, in Italy 140, in Hungary 130, in the German Empire 127, in Austria 107, and in England 105. Last year the excess was 41,901 births, or only 10 per 10,000 inhabitants. The excess of 1912 was 57,911, or 15 per 10,000. There has thus been a diminution of one-third. This diminution springs from a simultaneous deficit of 5112 births and an increase of 10,898 deaths. Last year an excess in births was noted in 49 departments in place of in 56 in 1912. The departments in which the birth-rate exceeds the mortality are those of the Nord, Pas de Calais, Bretagne, the frontier regions of the North-Est, Limousin, and Corsica. On the other hand, Normandy and Dauphiny continue to depopulate. The proportion of births per 10,000 inhabitants was 196, as against 198 in 1912. The departments in which the birth-rate was highest were Pas de Calais, 266 children per 10,000 inhabitants; Finistère, 259; Morbihan, 248; Seine Inférieure, 240; Meuthe and Moselle, 239; Côtes du Nord, 236; Lozère, 219; Doubs, 217; Nord, 216; Mayenne, 213; Vendée, 211; and Vosges, 210. Those in which it was lowest are the Valley of the Garonne and Bourgogne; Gers, 129; Lot et Garonne, 134; Yonne, 137; Nièvre, 141; Allier, 143; Lot, 145; Haute Garonne, 147; Gironde, 148; and Ariège, 149. The number of deaths, 703,638 (stillbirths 31,119, excluded) is greater by nearly 11,000 than that of 1912, which was the lowest recorded since the beginning of the present century. The ratio of deaths for the entire population was 178 per 10,000 inhabitants, as against 172 in 1912, 196 in 1911, and 179 in 1910. The death-rate has risen in 64 departments, and particularly in the Bouches du Rhône, the Dordogne, the Var, Haute Savoie, Corsica, the Somme, Haute Vienne, Aveyron, and Tarn-et-Garonne. The Norman and Breton departments continue among those furnishing the largest proportion of deaths."

The phenomena of the French birth-rate are not only of the greatest sociologic significance, but have added importance in view of the possibility of a long continuance of the European war and the imperative need of constant reinforcements.

BELGIAN PHYSICIANS' RELIEF FUND.

The following is the report of the Treasurer of the Committee of American Physicians for the Relief of the Belgian Profession for the week ending January 2, 1915.

Contributions:

H. F. W.	$ 25.00
B. C.	2.50
D. W. C.	25.00
V. P. G.	25.00
Mrs. J. B. M.	100.00
E. F. B.	5.00
C. W. N.	25.00
In Memory H. H. C.	10.00
S. J. M.	15.00
D. B.	25.00
Total	$257.50
Disbursement	None
Contributions previously reported.	405.00
Grand total	$662.50

The following local contributions are also gratefully acknowledged:

Dr. David W. Cheever	$25.00
In Memory of H. H. C.	10.00
Dr. E. S. Boland	5.00
Dr. F. W. Stetson	10.00
Dr. Henry M. Swift	10.00
	$60.00

NOTICES.

Physicians visiting the city will be cordially welcomed at the following clinics on the days and hours specified.

THE BOSTON CITY HOSPITAL.—After January 1, 1915, public operations will be performed in the Surgical Amphitheatre each week, on Thursdays, Fridays and Saturdays, at 10 o'clock.

Thursday: First Surgical Service. Dr. Blake.

Friday: Third Surgical Service. Dr. Nichols, and Fourth Surgical (G-U) Service. Dr. Thorndike.

Saturday: Second Surgical Service. Dr. Lund.

Notice of these operations will be sent to anyone expressing his desire to receive it.

MASSACHUSETTS GENERAL HOSPITAL.—1. A surgical clinic Tuesday, at 12, in the out-patient amphitheatre. 2. Operations in the Bigelow amphitheatre Saturdays from ten to one. 3. Operations in the Surgical Building daily except Sunday, from nine to one. 4. Daily surgical ward visits at which visiting physicians will be welcome. 5. Clinic in medicine and pathology Tuesday at twelve, by Drs. R. C. and H. Cabot and O. Richardson. 6. Medical clinic Thursday at twelve, by Dr. D. L. Edsall.

PETER BENT BRIGHAM HOSPITAL.—Physicians visiting the city will always be cordially welcomed at the Peter Bent Brigham Hospital.

The medical visit takes place regularly every morning beginning at 10 o'clock.

Operations are usually going on throughout the forenoon in the surgical amphitheatre.

The surgical clinic is held in the clinical amphitheatre on Wednesdays at 12.30 P.M.

The medical clinic is held in the clinical amphitheatre on Mondays at 12.30 P.M.

The clinico-pathological demonstration is held in the clinical amphitheatre on Fridays at 3.30 P.M.

BOSTON MILK AND BABY HYGIENE ASSOCIATION.—For the week beginning January 18, there has been booked at B. F. Keith's Theatre a one-act play entitled "Milk," by Miss Una Clayton, which aims in a very popular way to teach the lesson of the importance of pure milk with special reference to infants and baby hygiene.

On Tuesday morning, January 19, at 11 o'clock, a public meeting will be held at Keith's Theatre at which Miss Clayton will explain her purpose in writing and presenting this play. At the same meeting there will be shown moving pictures dealing with the production of clean milk and welfare work for babies in large cities. This meeting will be held under the auspices of the Milk and Baby Hygiene Association of Boston. Admission will be free.

SOCIETY NOTICE.

NEW ENGLAND PEDIATRIC SOCIETY.—The thirty-fifth meeting of the New England Pediatric Society will be held in the Boston Medical Library, Friday, January 29, 1915, at 8.15 P.M.

The following papers will be read:

1. "Acidosis in Children," Arthur A. Howard, M.D., Boston.
2. "Parenteral Immunization in Conditions of Proteid Sensitization," J. L. Goodale, M.D., Boston.
3. "Weaning—Its Relation to Anaphylaxis as Shown by Differential Blood Counts," H. C. Berger, M.D., Boston.

Light refreshments will be served after the meeting.

E. M. BUCKINGHAM, M.D., *Pres.*
R. M. SMITH. M.D., *Sec'y.*

RECENT DEATHS.

DR. HENRY DUSENBURY of Williamsburg, N. Y., died recently in that city. He was born at Albany in 1833 and received the degree of M.D. in 1866 from the New York College of Physicians and Surgeons. He was at one time a United States Army Surgeon. He is survived by his widow and two sons.

DR. KLAUS HANSSEN, who has died recently at Bergen, Norway, was born in 1843. He was chief physician of the Municipal Hospital at Bergen and a Fellow of the Norwegian Academy of Medicine and was a leader in the national movement for the eradication of tuberculosis.

DR. JAMES STOPP SHAW, who died at Beachmont, Mass., on January 1, was born at Newcastle, England, in 1838. Migrating to the United States in 1852, he studied dentistry and settled in practise successively at St. Johnsbury, Vt., Sheffield, Iowa, and Fremont, Neb. Returning to Boston, he undertook the study of medicine and received the degree of M.D. from Boston University in 1876. He was a member of the Massachusetts Homeopathic Medical Society, the Boston Homeopathic Medical Society and an assistant in gynecology at the Boston University Medical School. He is survived by his widow.

DR. ALBERT VAN GEHUCHTEN, Professor of Neurology at the University of Louvain, died on December 9, at Cambridge, England.

APPOINTMENT.

Dr. E. O. Crossman of Lisbon, N. H., has been appointed Superintendent of the New Hampshire State Hospital.

BOOKS AND PAMPHLETS RECEIVED.

Fever, Its Thermotaxis and Metabolism, by Isaac Ott, M.D. Paul B. Hoeber, 1914.

Lead Poisoning. Lectures by Sir Thomas Oliver, M.D. Paul B. Hoeber, 1914.